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THESIS

**NET ASSESSMENT: CREATING AN INSTITUTIONAL
CAPACITY AND GENERAL PROCESS TO
PERFORM IT**

by

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June 2017

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GENERAL PROCESS TO PERFORM IT**

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ABSTRACT

Net assessment is the epistemological and holistic comparison between two or more systems of interest to determine their net differences and identify the risk and opportunity factors that allow the interested parties to take advantage of their own capacities. This research shows, however, that there is no established framework to create an institutional capacity to perform net assessment, or even a step-by-step explanation of how to perform it. The author establishes a theoretical framework to create an institutional capacity that generates understandable strategic knowledge by comparing internal systems with those of an external agent relevant to national security, and proposes a method to create an institutional capacity to perform net assessment. In six steps, he defines how this capability has to be created at the individual, organizational, and environmental levels, and reviews the previous assessments that must be made to establish a solid starting point. He also suggests twelve aspects that must be considered to develop net assessment products. Finally, he proposes three different schemes for integrating net assessment capacity into government organizations, public institutions, and private companies.

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LIST OF ACRONYMS AND ABBREVIATIONS

CEO	Chief Executive Officer
CIA	Central Intelligence Agency
DOD	Department of Defense
IDA	Institute for Defense Analyses
NA	net assessment
NSC	National Security Council
ONA	Office of Net Assessment
OSD	Office of the Secretary of Defense
RMA	revolution in military affairs

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I. INTRODUCTION

A. THESIS RESEARCH QUESTION

Every organization must face varying political, economic, social, military and environmental challenges. These challenges and threats can come from various sources including terrorist groups, organized crime, enemy countries, meteorological phenomena, antagonistic groups, or economic crises. These types of phenomena represent risks or opportunities that cannot be predicted by a simple formula or explained by a single discipline. Any organization that interacts strategically with its environment must have the capacity for evaluation, comprehension, and planning that allows it to take advantage of those conditions or to avoid them as efficiently as possible. This capacity can be created or updated through the method of net assessment. This thesis answers the question: How can we create an institutional capacity and perform net assessments in organizations that do not practice it?

B. PROBLEM STATEMENT

In this thesis, I discuss the methods to create an institutional capacity to perform net assessment in organizations that do not practice it. I will define how this capacity has to be created at the individual, organizational, and environmental levels and the previous assessments that must be made to know the current situation of the capacity (if it exists), and thus establish a solid starting point.¹

To achieve those objectives, I will analyze the origins and the environmental situation in which the U.S. Office of Net Assessment was created. The goal is to diagnose the lacks of information that have to be remediated and identify the common factors that facilitate the building capacity in any country or institution.

Small groups of dedicated people with concentrated expertise that collect and interpret all information that help to understand institutional environments are invaluable

¹ “What Is Capacity Building?” 2015, *National Council of Nonprofits*, March 17, <https://www.councilofnonprofits.org/tools-resources/what-capacity-building>; OECD, “The Challenge of Capacity Development - Working Towards Good Practice,” 2006, 11–14, <https://web.archive.org/web/20130428114524/http://www.oecd.org/development/governance-development/36326495.pdf>.

to the running of political and economic organizations. Therefore, the formation of qualified, intelligent, and common-sense advisory groups is vital to broaden the opportunities and reduce the risks faced by decision makers. A way to integrate these groups is the net assessment process but, although the process is a valuable tool, its practice has not been properly codified. Therefore, the creation of an institutional capacity to perform it remains elusive.

How does net assessment arise in institutional settings? What are the challenges in implementing net assessment? What opportunities does net assessment offer? What is the regional/continental context? Why do organizations not perform net assessment? Is it because of lack of capacity, lack of will or lack of knowledge?

C. SIGNIFICANCE OF THE RESEARCH QUESTION

Currently, there is no established framework to create an institutional capacity to perform *net assessment* or even a step-by-step explanation of how to perform a net assessment. In that sense, the significance is to establish a theoretical framework to create an institutional capacity that generates understandable strategic knowledge by comparing an institution's own systems with those of an external agent that are relevant to national security.

The proposed framework comprises three levels of development: the individual, organizational, and strategic environments. First, at the individual level, the personal skills and abilities that are required in an analyst to achieve the production of a fair and impartial evaluation will be established, as well as how these skills can be improved or included in the project, resulting in a method of recruitment applicable to the needs of the subject to analyze and the way individuals have to be exploited and rewarded. Second, at the organizational level, where those analysts will be grouped as a single entity of analysis with the common purpose of generating knowledge and forecast, will be established a work methodology that includes the phases of the analysis process. These phases will span from the search and collection of the information until the delivery of the final product to the end user, dictating the multidisciplinary interactions for the

understanding of the objects of study.² In the same way, an organizational chart will be proposed describing the internal organization of the group, its components, and functions, as well as the relationship that should exist between them and with their higher level. Third, at the enabling environment, in which the organization influences at a strategic level with other institutions, the procedure for the formal creation of the organism at the institutional level will be proposed. The preceding means the establishment of rules governing the agency, inter-institutional relations, agreements and directives that will have to be adopted for its operation, and the rights and obligations of the body itself.

D. LITERATURE REVIEW

1. The Origins of Net Assessment

Originally created for the intelligence needs of the United States at the outset of the Cold War, net assessment is the result of the application of research methodology in the strategic-military affairs of the state by bringing together the empirical and practical knowledge of individuals with contrarian tendencies and acute common sense, usually thinking outside the standards established by the system. These thinkers' multidisciplinary nature allowed them to understand the strengths and vulnerabilities that should be addressed in the short, medium, and long term in order to provide decision makers with the own and the contender diagnosis and reduce the intrinsic uncertainty of a blind conflict.³

This new form of analysis was initially concerned with highly collaborative innovation by instituting the interaction of multiple disciplines to find a coherent

² OECD, "The Challenge of Capacity Development," *OECD Journal on Development* 8, no. 3 (November 25, 2008): 13, doi:10.1787/journal_dev-v8-art40-en.

³ John Schutte, "Andrew W. Marshall and the Epistemic Community of the Cold War," Air University, 2015, http://www.au.af.mil/au/aupress/digital/pdf/paper/dp_0016_schutte_casting_net_assessment.pdf; Office of the Secretary of Defense Historical Office, "Andrew Marshall and the Shaping of Modern American Defense Strategy," YouTube video, 1:02:51, from a conference by Andrew Krepinevich and Barry Watts in the Pentagon Conference Center on November 17, 2015, posted by "OSDHO," November 24, 2015, <https://www.youtube.com/watch?v=F5H9ZZrpH5U>; A. F. Krepinevich and B. D. Watts, *The Last Warrior: Andrew Marshall and the Shaping of Modern American Defense Strategy* (New York: Basic Books, 2015), <https://books.google.com/books?id=QoJzAwAAQBAJ>; Johan van Overtveldt, *The Chicago School: How the University of Chicago Assembled the Thinkers Who Revolutionized Economics and Business* (Chicago: Agate Publishing, 2008), https://market.android.com/details?id=book-GKcrdEN_3WUC.

explanation of the related strategic phenomena so that it crossed studies of economics, political science, applied mathematics, psychology, and biophysics. Due to the flexibility of the process, human and organizational behavior were included in its disciplinary crosses, and the analysis began to be applied in the revision and renewal of the fundamental concepts of military tactics and strategy.⁴

The project was launched in 1960 by the CIA's Office of National Estimates to lessen the uncertainty caused by the lack of knowledge about Soviet nuclear weapons capacity. That uncertainty was affecting the decisions of the U.S. president in the economic, military, social, and political arenas. Coincidentally, development of the assessment identified the communication and information gaps that existed within the intelligence institutions as well as multiple deficiencies within the bureaucratic governmental and military systems of the United States.⁵ Twelve years later, having reformed and transformed the strategic planning and defense of the state, the bureaucratic relations of the governmental apparatus, and the civil-military relations in decision making and the formulation of policies, the net assessment capacity was institutionalized

⁴ Bernard Brodie et al., *The Absolute Weapon: Atomic Power and World Order* (New York: Harcourt, 1946); Sam C. Sarkesian, "The Sorcerer's Apprentice: Social Science and the American Military," *Tooling for War: Military Transformation in the Industrial Age*, 1996, 231–46; Mie Augier, "Administrative Behavior: A Study of Decision-Making Processes in Administrative Organizations. By SIMON (HERBERT A.)," *The Economic Journal of Nepal* 112, no. 480 (June 1, 2002): F386–88, doi:10.1111/1468-0297.t01-17-00050; Lawrence S. Kaplan, Ronald D. Landa, and Edward J. Drea, *History of the Office of the Secretary of Defense: The McNamara Ascendancy, 1961–1965* (Historical Office, Office of the Secretary of Defense, 2006), <https://market.android.com/details?id=book-jKU0kAEACAAJ>; Graham T. Allison, Philip Zelikow, and Others, *Essence of Decision: Explaining the Cuban Missile Crisis*, vol. 2 (New York: Longman, 1999), <http://library.wur.nl/WebQuery/clc/1850647>.

⁵ Tom Wells, "Wild Man," in *Wild Man* (New York: Palgrave Macmillan US, 2001), 271–319, doi:10.1007/978-0-230-10298-9_10; W. E. Seidel, "Intelligence for Defense Planning," *Central Intelligence Agency*, accessed December 4, 2016, https://www.cia.gov/library/center-for-the-study-of-intelligence/kent-csi/vol8no2/html/v08i2a02p_0001.htm; N. E. Firth and J. H. Noren, *Soviet Defense Spending: A History of CIA Estimates, 1950–1990*, Military History Series (Texas A&M University Press, 1998), <https://books.google.com/books?id=U12Ilui7NH0C>; J. Samaan, *The RAND Corporation (1989–2009): The Reconfiguration of Strategic Studies in the United States* (Springer, 2012), <https://market.android.com/details?id=book-VdVmAQAAQBAJ>; John Schutte, "Andrew W. Marshall and the Epistemic Community of the Cold War," 2015, http://www.au.af.mil/au/aupress/digital/pdf/paper/dp_0016_schutte_casting_net_assessment.pdf.

within the Department of Defense, creating the Office of Net Assessment that to this day is the main body advising the Secretary of Defense.⁶

2. Origins of the Sciences' Application in Defense and National Security

In the evolution of military affairs, it has become clear that war is not only a matter for the armed forces, but also for all the pillars that sustain the state. Thus, to maintain the security of a nation, it is necessary to establish a balance between the investment that is made in the sectors that comprise it: economic, political, social, and military. With this premise, we can observe that nowadays modern nations are worried about the size and capacity of their armed forces, maximizing their efficiency for the national defense, and minimizing their expense.⁷ The main sectors to be protected by this transformation are economic and social, since examples such as the Soviet Union are enough to understand that uncontrolled military aggrandizement can lead to the collapse of the state.

This transformation in the forms of state defense has been approached in different ways, betting on military efficiency and capacity to develop technology and training, predicting and passively solving conflicts by applying scientific knowledge, and formulating regional alliances and collective security.⁸ Although all differ in the ways to materialize the defense actions, there is a common factor among them: the transformation of the national defense must obey a national strategic plan and a national security policy

⁶ Henry Kissinger, "National Security Study Memorandum 178," NSC/Soubers to Smith 91 (2002): 061, https://fas.org/irp/offdocs/nssm-nixon/nssm_178.pdf; "NSSM 178 (1), 03–29-1973, Program for National Net Assessment - e_clef_00135 | Clements National Security Papers Project," accessed December 4, 2016, <http://ns.clements.papers.org/clementsns/pdf/7192>; "NSSM 178 (2), 03–29-1973, Program for National Net Assessment - e_clef_00144_001 | Clements National Security Papers Project," accessed December 4, 2016, <http://ns.clements.papers.org/clementsns/2639>; "Reply to NSSM 178 - Memo June 1973.pdf," 1973; "National Net Assessment Process NSSM 178 - Presidence Memo May 1973.pdf," 1973; "National Net Assessment Process NSSM 178 - Presidence Memo February 1977.pdf," 1977.

⁷ Chris Donnelly, "Defence Transformation in the New Democracies: A Framework for Tackling the Problem," *NATO Review* 45 (1997): 15–19.

⁸ Kevin P. Reynolds, *Defense Transformation: To What, for What?* Strategic Studies Institute, U.S. Army War College, 2006, <https://market.android.com/details?id=book-uwYa3FnILqoC>; Chris Donnelly, "Defence Transformation in the New Democracies: A Framework for Tackling the Problem," *NATO Review* 45 (1997): 15–19.

elaborated by civilians and military with essential knowledge for the permanence and security of the state.

To develop these new policies and strategies, the national objectives must be rethought. It is necessary also to develop a diagnosis of one's capacity to identify the minimum defense requirements without violating the state's security. Therefore, issues such as budget programming, reduction of military personnel numbers, innovation in military strategies, leadership, changes in organization and concepts of operation, among others, become the object of study having to offer inclusive and consensual solutions.⁹

These solutions, to a large extent, have been formulated and made known by centers of strategic thinking that arise in response to the new challenges that the world and state environment present. These groups of investigations, better known as think tanks, bring together civilian and military personnel with experience and strategic knowledge with the sole function of studying the phenomena related to national security and defense. Some think tanks of greater relevance for the development of defense strategies are the Center for Strategic and International Studies (CSIS) in the United States, International Institute for Strategic Studies (IISS) in the United Kingdom, RAND Corporation in the United States, Stockholm International Peace Research Institute (SIPRI) in Sweden, European Union Institute for Security Studies (EUISS) in France, and Argentine Council for International Relations (CARI) in Argentina.¹⁰

Up to this point, although the importance given to knowledge and applied science in war conflicts is observed in the evolution of national defense, no literature indicates the presence of centers of analysis and development of strategies within the governmental structure. Even on defense issues, except for Argentina, there are no think tanks in Latin America that are intended for the study of defense and national security specifically, even in the civilian environment.

⁹ Eric Larson, David Orletsky, and Kristin Leuschner, "Defense Planning in a Decade of Change: Lessons from the Base Force," *Bottom-Up Review, and Quadrennial Defense Review*, Santa Monica, RAND Corporation, 2001; Ronald O'Rourke, "Defense Transformation: Background and Oversight Issues for Congress," DTIC Document, 2004, <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA443727>.

¹⁰ James G. McGann, "2015 Global Go to Think Tank Index Report," 2016, http://repository.upenn.edu/cgi/viewcontent.cgi?article=1009&context=think_tanks.

3. Civil-Military Relations

Returning to the fields of state power and the way in which they interact, we can observe that military and defense evolution began to demand greater attention in the relations maintained by the armed forces, mainly their senior officers, with the representatives and political, economic, and social leaders, in affairs that involve the definition and execution of military strategies and objectives as well as the effects they have on the state at the local, regional and global levels.¹¹

These types of civil-military relations were formally studied by Samuel Huntington, who originally questioned the ability of senior military officers to advise and recommend to state leaders actions and decisions with strategic-political impact. The debate was based on the conflict between the capacity and experience of the military according to their profession, and their vision and behavior by being involved in the elaboration of political strategies and definition of state objectives, where civilians finally have to make decisions that influence the entire state. Huntington argues that political control of the military branch is exercised by civilians who have experience and knowledge in planning strategies and establishing state political objectives. He states also that the armed forces, as an autonomous body, dedicates its efforts to the effective execution of the decisions coming from the political sphere by the professionalization of its ranks and the improvement of its purely military tactics and strategies.¹²

This type of control is usually carried out in democracies and, in order for it to work, the state must have robust and well-founded institutional capacities to effectively control the armed forces through updating and adapting the educational framework of military officers to assimilate civilian leadership; studying, planning, developing and communicating orders; providing human, material, and economic resources; and supervising the fulfillment of the instructions and achievement of the objectives outlined. If the state does not have institutions capable of carrying out these tasks, then civil-

¹¹ David Pion-Berlin, "The Study of Civil-Military Relations in New Democracies," *Asian Journal of Political Science* 19, no. 3 (2011): 222–30, doi:10.1080/02185377.2011.628143.

¹² S. P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations*, (Cambridge, Mass.: Belknap Press of Harvard University Press, 1957), <https://books.google.com/books?id=1PqFe0rsfdcC>.

military relations will be weak or nonexistent, even when there is no civilian control of the armed forces.¹³

These institutional capacities must have groups of civilian personnel skilled in defense issues and strategies that collaborate with other experts—including military personnel—on the affairs involved in the construction of the state defense plan and strategy, and the generation of the national development plan. Thus, the areas of decision making in which civil-military capabilities are influenced are elite recruitment, public policy, internal security, external defense, and military organization. In order to create these capacities, it is considered necessary that the interest of a person (generally civilian, but not necessarily) be concerned with extending civil influence in decision making in the areas mentioned.¹⁴

Thus, for the purposes of this thesis, it is necessary to create institutional capacities that integrate civilian and military personnel with sufficient experience and knowledge to heuristically analyze the state and provide information that allows decision makers to act accurately. To carry out this task, the prime mover can be a civilian or military individual who has the interest and intellectual capacity to explain the advantages obtained by creating this type of organism, and who in turn proposes the organization, methodology and operational schemes, so that they can be implemented and adapted to the existing institutional structure, making the changes that are obligatory and taking advantage of the capacities that already exist.

4. Capacity Building

Once a sketch of the evolution and military revolution has been drawn, as well as of the transformation of the defense mechanisms of the state, it has been observed that the Civil-Military relations have become a fundamental piece in the current era. The

¹³ Thomas C. Bruneau, “Civilians and the Military in Latin America: The Absence of Incentives,” *Latin American Politics and Society* 55, no. 4 (December 1, 2013): 143–60, doi:10.1111/j.1548-2456.2013.00216.x; P. Feaver, *Armed Servants: Agency, Oversight, and Civil-Military Relations* (Cambridge, Mass.: Harvard University Press, 2009), https://books.google.com/books?id=ky3uDGM_cEAC.

¹⁴ Aurel Croissant et al., “Theorizing Civilian Control of the Military in Emerging Democracies: Agency, Structure and Institutional Change,” *Zeitschrift Für Vergleichende Politikwissenschaft* 5, no. 1 (May 18, 2011): 75, doi:10.1007/s12286-011-0101-6.

interrelation between politicians, military, economists, statespersons, and academicians is the cornerstone in the planning of medium and long-term strategies for the preservation of the state, which is why the institutionalization of this capacity is demanding.

Several authors assume that the capacity building process occurs only in environments that have clear developmental disadvantages. In this sense, one can understand the assumption in different ways: one is that the process definitely obeys the reconstruction of a state; another dictates that the construction of institutions is necessary within a weak state; and a third could be interpreted as the improvement of strong institutions within a state that seeks to evolve in the regional and international environment. The institutionalization of a multidisciplinary group with the capacity to analyze systems of interest for the state can emerge in an empirical—practical—way as an immediate requirement in response to a conjunctural conflict that jeopardizes the permanence of the state, or it can occur in a planned and gradual theoretical way as a mechanism of advice. Undoubtedly, however, its emergence will always have the objective of providing decision makers and politicians with a broader picture of the challenges the state faces.¹⁵

Given that capacity building is interpreted as the creation of methods, processes and strategies that allow the individual, in conjunction with an organization, to change the environment in which they develop to obtain greater benefits and boost their development through intelligent and sound decisions with repercussions in the medium and long term, from the self-sufficiency of small local communities to the consolidation of international positions of a state, improving and increasing the skills and knowledge of people, organizations and society are paramount either through internal means or with

¹⁵ Sue Kenny and Matthew Clarke, *Challenging Capacity Building* (New York: Palgrave Macmillan, 2010), <http://rohnasiri.ir/files/Building%20Capacity/Books/Challenging%20Capacity%20Building%20Comparative%20Perspectives.pdf>; Gary Craig, "Community Capacity Building: Critiquing the Concept in Different Policy Contexts," in *Challenging Capacity Building*, ed. Sue Kenny and Matthew Clarke, Rethinking International Development Series (New York: Palgrave Macmillan UK, 2010), 41–66, doi:10.1057/9780230298057_3; Randy Stoecker, "Capacity Building and Community Power," in *Challenging Capacity Building*, ed. Sue Kenny and Matthew Clarke, Rethinking International Development Series (New York: Palgrave Macmillan UK, 2010), 211–28, doi:10.1057/9780230298057_10; Keneilwe Molosi, "Challenging Capacity Building: Comparative Perspectives," *Community Development Journal* 47, no. 1 (January 1, 2012): 161–63, doi:10.1093/cdj/bsr068; Beth Walter Honadle, "A Capacity-Building Framework: A Search for Concept and Purpose," *Public Administration Review* 41, no. 5 (1981): 575–80, doi:10.2307/976270.

external assistance.¹⁶ This creation and institutionalization of capacities is graphically explained in Figure 1.¹⁷

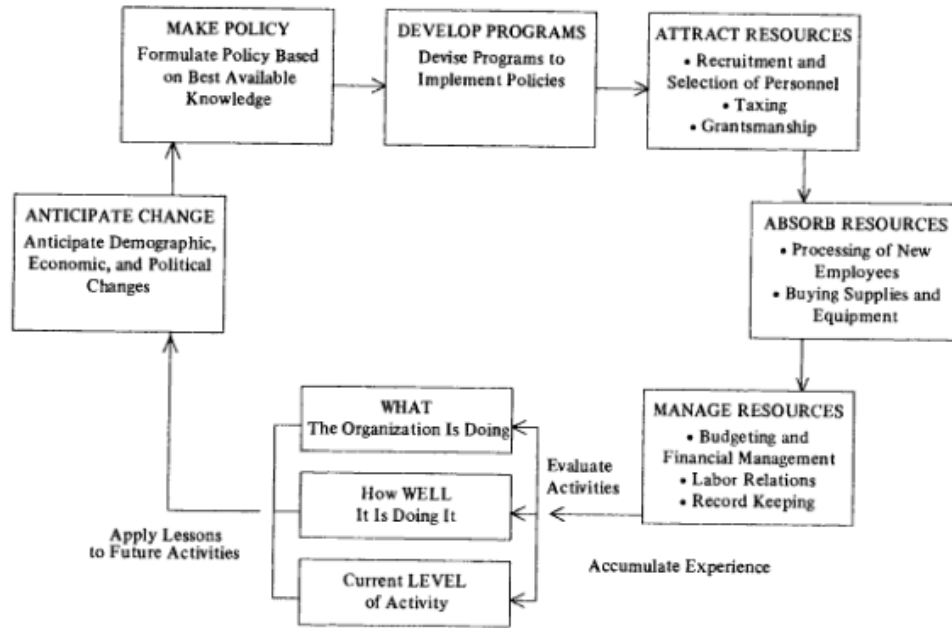


Figure 1. A Capacity Building Framework¹⁸

When the capacity building process has been understood, the next step contemplates a question: create a capacity for what? How will impact on the individual, organizational and environmental levels be achieved? What are our actual strengths and needs for its creation? What kind of endogenous or exogenous support will be required for development? What existing institutions can thrive with the new task? These questions can only be answered and taken care of by the state and the organisms that

¹⁶ Rick James, *People and Change: Exploring Capacity-Building in NGOs* (Oxford: INTRAC, 2002), <http://www.opengrey.eu/item/display/10068/470652>; Sue Kenny, "Reconstruction in Aceh: Building Whose Capacity?" *Community Development Journal* 42, no. 2 (April 1, 2007): 206–21, doi:10.1093/cdj/bsi098; Tony McCall, "Institutional Design for Community Economic Development Models: Issues of Opportunity and Capacity," *Community Development Journal* 38, no. 2 (April 1, 2003): 96–108, doi:10.1093/cdj/38.2.96; Raymond Victorine, "Building Tourism Excellence at the Community Level: Capacity Building for Community-Based Entrepreneurs in Uganda," *Journal of Travel Research* 38, no. 3 (February 1, 2000): 221–29, doi:10.1177/004728750003800303; "The Challenge of Capacity Development," *OECD Journal on Development* 8, no. 3 (11, 2008): 233–76, doi:10.1787/journal_dev-v8-art40-en.

¹⁷ Honadle, "A Capacity-Building Framework: A Search for Concept and Purpose," 575–80.

¹⁸ Source: Honadle, "A Capacity-Building Framework: A Search for Concept and Purpose," 578.

require the capacity since, being endemic conditions, the phenomena that influence the situation that is suffered are inimitable and, although it is certain that they can take reference of some other similar conditions from different times and regions, methods and processes must be developed to explain the own panorama.¹⁹

E. POTENTIAL EXPLANATIONS AND HYPOTHESES

How does net assessment arise and what are the necessary steps to develop it? The net assessment process emerged in the United States during the Cold War when the uncertainty generated by the Soviet Union's military actions and capabilities demanded that decision makers develop an offensive military capability that could not be sustained economically without affecting state maintenance. Several factors led to the appearance of this process; among the most important are the lack of knowledge of the enemy, the need to define a new defense strategy that the state could sustain for an unlimited time, the lack of communication between the civil and military intelligence agencies of the state, and the interest of a person to solve the flaws within the government bureaucracy and to promote one's integral knowledge and that of the enemy. Thus, net assessment arises when there are external pressures to reform and internal leadership seeking more efficient ways of conducting business.

Although doing net assessment gives the decision makers a broad understanding of their decision consequences, it also provides anticipated knowledge about conflicts and thereby possible ways to avoid them. Several steps are therefore key to implementing net assessment: First, a person must become interested in improving the strategic planning of the organization. Second, a group must be formed of intellectuals from different disciplines, whose sole interest is to create knowledge for the benefit of the state, to elaborate a comprehensive diagnosis of the organization to know its current state. Third, this group of intellectuals must be integrated in the structure of the organization to provide benefits and access to information, but also to control the management of sources

¹⁹ OECD, "The Challenge of Capacity Development," *OECD Journal on Development* 8, no. 3 (November 25, 2008): 233–76, doi:10.1787/journal_dev-v8-art40-en; Samuel Otoo, Natalia Agapitova, and Joy Behrens, "A Strategic and Results-Oriented Approach to Learning for Capacity Development," 2015, <http://agris.fao.org/agris-search/search.do?recordID=US2015601021>.

and products that are generated. Fourth, the organizational and bureaucratic structures of the organization must be adapted so that the new group is independent and shielded from external influences that alter the neutrality of the diagnostics. Fifth, the optimum working conditions must be created for the labor and intellectual development of the analysts. Sixth, the subjects of study must be defined and the sources of information adjusted according to new needs. Seventh, communication and feedback among analysts and decision makers must be actively maintained. This causal process should be applied in implementing net assessment elsewhere, taking into account the particular socio-political context of those reforms.

F. RESEARCH DESIGN

I will use the case-study method, taking the development of net assessment in the United States as the crucial-case of study because the “net assessment” concept, as well as the institutionalization of the capacity, was originated in that country and, so far, is the only theoretical reference and institutional framework that exists. In this way, I seek to identify the factors and conditions that led to the endemic emergence of the net assessment capacity and to understand the individual, organizational, environmental, and systemic variants in order to propose a theoretical and conceptual framework that can be used for creation of the ability of net assessment in institutions that require it.

The sources and materials I will use are secondary sources like recently declassified U.S. government memorandums and reports that contain in detail the origin and evolution of the net assessment and how it was shaped step by step. I will use official documentation from different governments, academies, and think tanks that show the situation of the nation and its armed forces in the area of security and defense, as well as the systems and centers of research and development with which they count and if they are considered for strategic decision making. I will also use articles and books edited by academic institutions, centers of analysis and experts linked to the study of the armed forces, national security and defense to establish a theoretical framework that shows the evolution of the military in the field of defense and national security, the origin and development of civil-military relations, the influence of research and development groups

in planning and decision-making strategies, and the process of institutional capacity building today.

G. THESIS OVERVIEW AND DRAFT CHAPTER OUTLINE

Chapter I introduced the research question and thesis, the survey of the literary sources that support the research, and the research method employed. Chapter II explains the general characteristics of the net assessment process, the multiple definitions of the concept and, finally, the author's definition of net assessment. Chapter III shows the methodology that describes the process, benefits, and beneficiaries of net assessment. Chapter IV proposes the process of creation of net assessment capacity within governmental and business structures outside of the American context. Finally, Chapter V presents conclusions of the investigation and summarizes the policy lessons from this study as well as proposing further steps to expand the scope of research on net assessment.

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II. ORIGINS, DEFINITIONS, AND EFFECTS OF THE ART OF NET ASSESSMENT

Innovation tends to be highly collaborative, multidisciplinary, and driven from the bottom up, primarily because most cutting-edge activity is no longer happening within the academic or scientific disciplines—it is happening between them.

—Bruce Kats and Ross Tilchin²⁰

A. SURVIVAL INSTINCT—THE ORIGINS OF NET ASSESSMENT

At the end of 1945, after having been at war for nearly six years, the multi-polar international political and security scene suddenly changed, drastically, leaving only two opposing hegemonies. During World War II, the United States' efforts had been devoted to the military sphere and war. After World War II, it became evident that the U.S. had a new role in the international arena that suddenly required the new global power to enhance its capabilities of thought and strategic planning in national security and international relations.

The new world order forced United States decision makers to look for long-term strategies to deal with threats of indefinite temporality considering military and economic constraints. The most significant determining factors were its sudden ascension as global hegemon, the consolidation of the Soviet Union as a tough competitor for that hegemony, the transformation of conflicts due to the accelerated technological development that altered the battlefield's time and space, and atomic technology and its effects on the arms race and war. Thus, the leaders, immersed in a period of uncertainty, acknowledged that issues related to national security and defense were no longer solely the domain of politicians and militaries; it was necessary to draw on the experience of scientists, researchers, and academics from various disciplines.²¹

²⁰ Katz, Bruce, and Ross Tilchin, "The 'Smartest Places on Earth' Come to Brookings | Brookings Institution," *Brookings*, April 18, 2016, <https://www.brookings.edu/blog/metropolitan-revolution/2016/04/18/the-smartest-places-on-earth-come-to-brookings/>.

²¹ George E. Pickett, James G. Roche, and Barry D. Watts, "Net Assessment: A Historical Review," *On Not Confusing Ourselves: Essays on National Security Strategy*, 1991, 158–62.

This period lasted more than two decades until, in 1970, through the report of the Department of Defense's Blue Ribbon Defense Panel addressed to the President of the United States and the Secretary of Defense, it was officially recognized that:

There is no organizational element within [Office of the Secretary of Defense] OSD with the assigned responsibility for objectively making net assessments of US and foreign military capabilities ... the Defense intelligence community is concerned with foreign developments, but does not make assessments of US capabilities ... there is no mechanism within the Department to provide all integrated analysis which systematically places existing or proposed programs in the context of the capabilities and limitations of the United States and its allies versus possible antagonists ... there is no organizational element within OSD that is charged with the responsibility for broadly supporting the Secretary of Defense in long-range planning which integrates Net assessments, technological projections, fiscal planning, etc ... no formal mechanism exists within OSD to assure adequate coordination among the various elements of the Department.²²

Global bipolarity and the Cold War forced leaders' advisors to reinvent and expand the quantitative analysis tools to assist in decision making created earlier, such as operations analysis or systems analysis. This evolution was necessary because those tools focused only on measurable variables, immediate situations and solutions, and probabilistic results of the occurrence of events initially predetermined by the researchers. Conversely, the comparative analyses and balances required had to evaluate multiple systems of interest at the same time under the same competence lens, taking into account essential concepts as the "understanding of the enemy's psyche, the search for its weaknesses, and the formulation of doctrines and concepts of operations."²³ This meant that operations research and systems analysis were not useful for strategic planning.

Unfortunately, to achieve that level of assessments, it was necessary to know in depth the strengths and capacities of the opponents themselves, how to make long-term investments and in what areas, what the political and social impacts would be, and what

²² United States, Blue Ribbon Defense Panel, Report to the President and the Secretary of Defense on the Department of Defense, 1970, 31, http://books.google.com/books/about/Report_to_the_President_and_the_Secretar.html?hl=&id=VqUZAAAIAAJ.

²³ George E. Pickett, James G. Roche, and Barry D. Watts, "Net Assessment: A Historical Review," *On Not Confusing Ourselves: Essays on National Security Strategy*, 1991, 163.

the forecasts would be, at the least. Up to that moment, no group of analysts or analysis had provided that information. The strategic factors that interacted in the existing situation were analyzed and solved separately without comprehensive strategies or long-term vision. Senior executives received information from multiple sources, they analyzed only a few, and made decisions reacting to and solving short-term situations but triggering chaos in the state systems in the medium and long term. It was impossible to formulate an efficient long-term strategy (Figure 2).

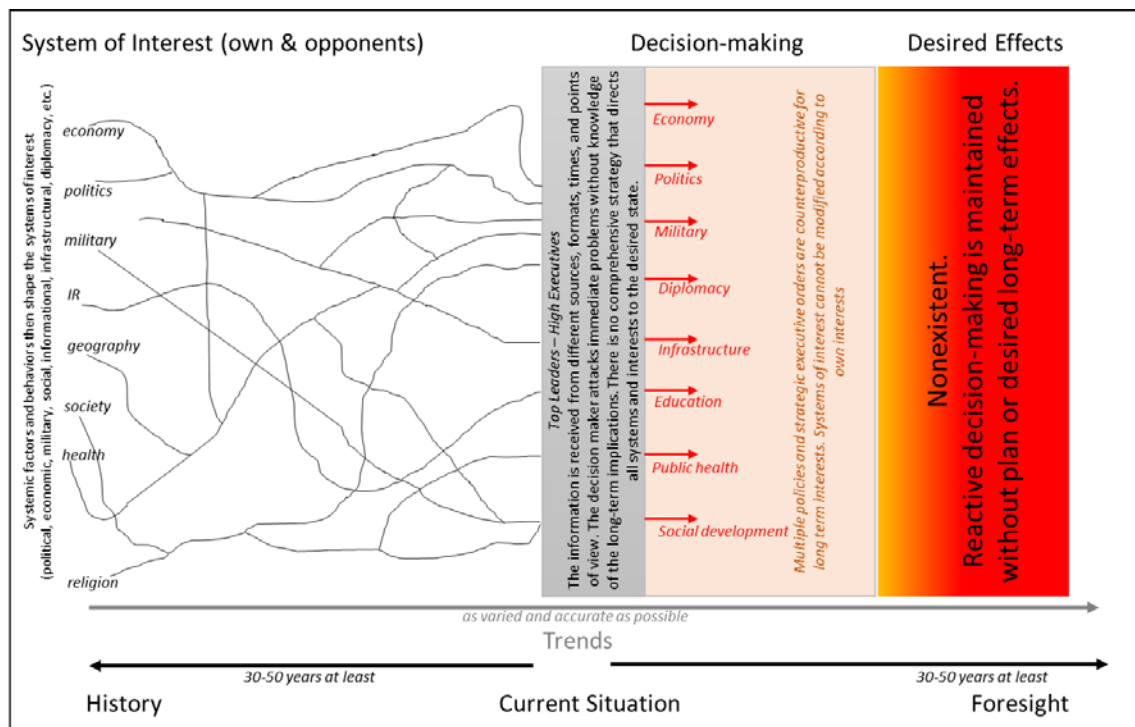


Figure 2. Strategic Planning and Decision Making Pre-net Assessment

In response, in 1970, the National Security Council ordered the creation of an analysis group that carried out net assessments. Its functions would be not only to forecast the long-term developments of U.S. and Soviet forces but to be a permanent entity that would continuously monitor the effects of the actions taken and permanently evaluate the status of international affairs. The Office of Management and Budget and RAND Corporation, along with the National Security Council staff, however, subsequently recommended that these kinds of entities must be in the intelligence,

military, and NSC structures. The reason was to cover the spectrum of issues to be studied, standardize procedures and terms, and expedite the exchange of information between institutions when required.²⁴

Not until 1971 did the President of the United States, Richard Nixon, order the formation of the Net Assessment Group in the NSC, which was established a year later under the direction of Andrew Marshall. Due to the satisfactory results of the group, and to facilitate and accelerate bureaucratic issues within the Department of Defense, the Secretary of Defense opted to comply with the original recommendation of the Blue Ribbon Defense Panel. Consequently, he formally created the Office of Net Assessment, integrating it into the DOD structure directly under his command (Figure 3).²⁵

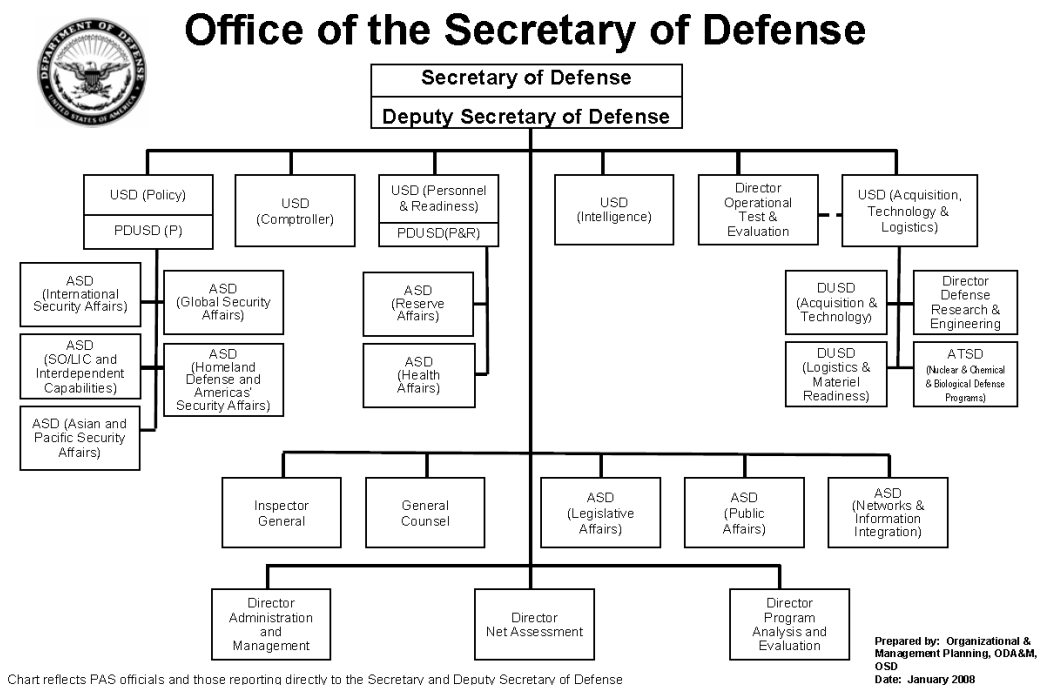


Figure 3. Organizational Chart of the U.S. Secretary of Defense²⁶

²⁴ Pickett, Roche, and Watts, "Net Assessment: A Historical Review," 158-62.

²⁵ Ibid., 166.

²⁶ Office of the Secretary of Defense, "Organization and Functions Guidebook," *U.S. Department of Defense*, 2008, <http://archive.defense.gov/odam/omp/pubs/GuideBook/ToC.htm>.

The most important attributions of the office were the closeness to executive decision makers and access to secret information and strategic knowledge.²⁷ Such access to intelligence, however, led the analysis leading group to question the effectiveness of state intelligence agencies. The more the assessors critically examined intelligence, the more their reasoning and conclusions differed dramatically from those offered by the intelligence agencies.

Either by the quality of the information or through the intellectual capacity, the Office of Net Assessment showed its advantages by interpreting that Soviet doctrine, planning, and strategic thinking constituted the real threat as opposed to the USSR's nuclear weapons. This understanding allowed it to elaborate studies that served as a base to develop strategies that would be adopted by the United States, giving to leaders and high executives the ability to formulate and direct long-term strategic policies and actions (Figure 4). Examples of its effectiveness are its prediction of the victory of the United States in the Iraq war in 1991 and the reconceptualization of the balance of power in Asia to counteract China's military growth.²⁸

²⁷ Michael C. Desch, "Don't Worship at the Altar of Andrew Marshall," *The National Interest*, accessed March 14, 2017, 6, <http://nationalinterest.org/feature/the-church-st-andy-11867>.

²⁸ Desch, "Don't Worship at the Altar of Andrew Marshall," 6.

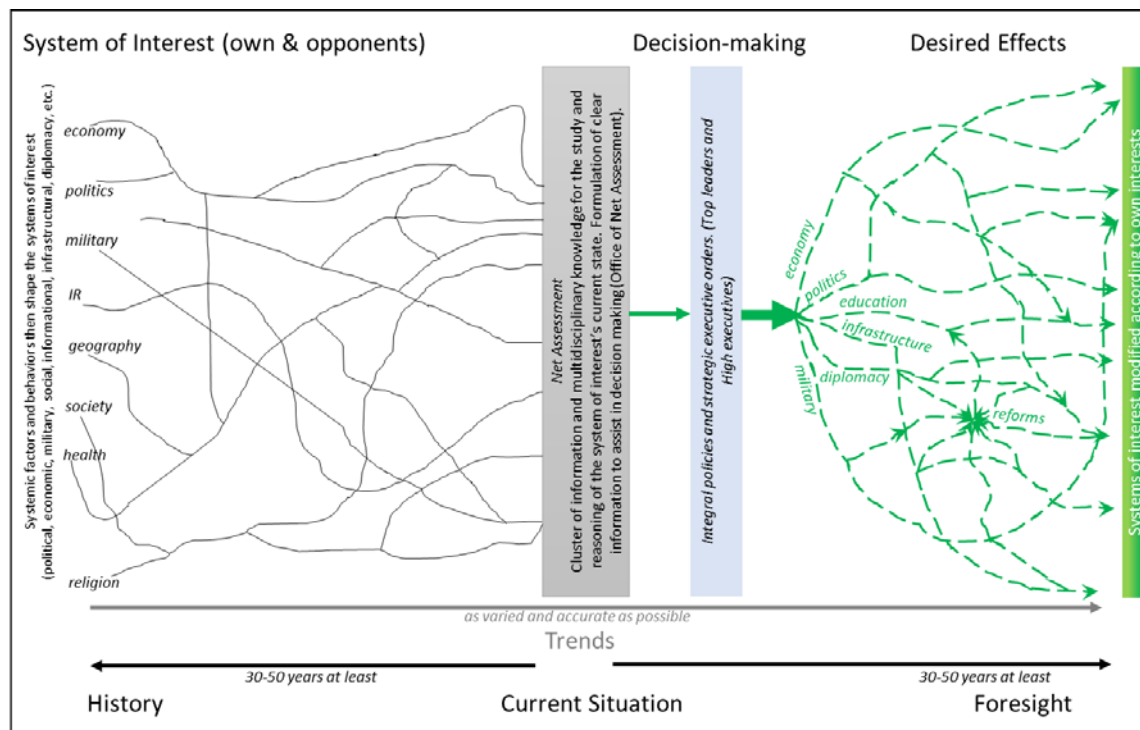


Figure 4. Strategic Planning and Decision Making Post-net Assessment

From its creation until 2015, the Office of Net Assessment was under the direction of a single person, Andrew Marshall. For this reason, and considering that the information of that office is mostly secret, Marshall is attributed with many of the achievements of the net assessment. Such a record of strategic sagacity demonstrates that “Marshall was endowed with the ability to ‘peer further into the future than most others in the U.S. government.’”²⁹ Hence, Marshall’s Office of Net Assessment made significant contributions to U.S. national security by “forcing a much-needed debate about the CIA’s supposedly flawed assessments of the Soviet economy and defense spending; identifying before anyone else in the Pentagon the outlines of an imminent RMA flowing from new technologies and innovations; and predicting the rise of China as a ‘peer competitor’ for the United States after the Cold War.”³⁰ One must recognize, however, that behind him existed leading assessors who participated in the products that he finally signed. This thesis treats the success (and mistakes) attributed to Andrew

²⁹ Desch, “Don’t Worship at the Altar of Andrew Marshall,” 2.

³⁰ Ibid., 6.

Marshall as accomplishments and contributions of the Office of Net Assessment as a whole.

B. WHAT IS NET ASSESSMENT?

1. From Empiricism to Theory—Defining the Practice

George Pickett, James Roche, Barry Watts, and Eliot Cohen, all of whom worked in the DOD Office of Net Assessment, are some who have tried to explain the concept of net assessment. As experts, they state that to articulate a single definition of net assessment would go against its fundamental principles. Even Andrew Marshall, the long-serving founding Director of the Office of Net Assessment, whenever questioned by his disciples about the definition of net assessment, was restrained and refused to pigeonhole the practice. These practitioners avoid recognizing a single definition of net assessment perhaps because its value and success depends upon the freedom and inventiveness of the analysts. Strict definitions would force the process to become routine and predetermined, and the analysts would lose the freedom to create knowledge by thinking outside established procedures.

Although net assessment as a research process or methodology has always lacked of a single or consensually accepted definition, some of the authors mentioned above have described the practice. For Andrew Marshall net assessment was more than military campaign planning. He performed net assessments to estimate “an opponent’s military posture, and, in particular, his future military posture.”³¹

George Pickett, James Roche, and Barry Watts define net assessment as the:

comparative analysis of military, technological, political, economic, and other factors governing the military capabilities of the United States... and its potential competitors... It is a diagnostic approach tailored to assist the policy maker with problems that affect the character and success of the total defense enterprise;... It attempts to... concern itself with the long-term U.S. military situation, how that compares to potential opponents,

³¹ Andrew Marshall quoted in Desch, “Don’t Worship at the Altar of Andrew Marshall,” 3.

and what actions should be considered to improve the situation in the future.³²

For them, the practice is a diagnostic of multiple organizational efforts to help top leaders and decision makers to develop their strategic thinking and perspective on national security.

Stephen Rosen states that “good net assessment requires self-conscious rejection of a fixed definition of net assessment,” providing a description that is open enough to allow analysts to think outside the box.³³ He says that “net assessment is the analysis of the interaction of national security establishments in peacetime and war.”³⁴ Consequently, if an explanation is needed, it has to be broad and include all the connotations of the term such as “comprehension at the highest level” and “the importance of comprehensiveness, even handedness, and attention to details.”³⁵

Eliot Cohen defines net assessment as “the craft and discipline of analyzing military balances” and emphasizes that it is not in any way a science.³⁶ Cohen argues that net assessment is nothing like the hard sciences, although it takes advantage of them. He believes that the practice of net assessment in the ONA has been productive until now due to the varied and multidisciplinary knowledge, as well as the intellectual capacity, of those who have participated in it. Because it is a practice on a personal level, however, its existence and success depend on the ability and understanding of those undertaking it. Therefore, Cohen concludes, the bureaucracy and its desire to standardize the process of net assessment are the natural enemies of the experts engaged in net assessment.

Paul Bracken states that there are two important reasons for understanding net assessment: “it has general application to many military issues” and “it has become an

³² Pickett, Roche, and Watts, “Net Assessment: A Historical Review,” 177.

³³ Stephen Peter Rosen, “Net Assessment as an Analytical Concept,” *On Not Confusing Ourselves: Essays on National Security Strategy in Honor of Albert & Roberta Wohlstetter*, 1991, 284.

³⁴ Rosen, “Net Assessment as an Analytical Concept,” 285.

³⁵ *Ibid.*, 284.

³⁶ Eliot A. Cohen, *Net Assessment: An American Approach* (Tel Aviv: Jaffee Center for Strategic Studies, 1990), 4.

important part of the language spoken by leaders in the high levels of DOD.”³⁷ These two reasons are linked to each other because high-level military and Pentagon strategic planning activities require efficient tools.

Considering the arguments and definitions described in this section, I define net assessment as the epistemological and holistic comparison between two or more systems of interest to determine their net differences and identify the risk and opportunity factors that allow the interested parties to take advantage of their own capacities.

2. Strategy and Net Assessment

Net Assessment is a multi-sided comparative evaluation of entities involved in strategic planning. The initial objective of the comparison is to identify the strengths and weaknesses of each system to establish the net balance between them. By highlighting its complexity, its aspects, the levels of the executives who use it, and its unique characteristics, however, it becomes almost impossible to define it more precisely than as an art. Thus, experts like Andrew Marshall, General W. Y. Smith (President of the Institute for Defense Analyses), and various members of the Department of Defense, government institutions, private and state universities, intelligence and strategic studies departments, lately have also defined net assessment as a full and multifaceted *art* that must create controversy.

Most of the descriptions of net assessment have focused mainly on the military and defense issues, leaving aside other factors that influence the security of a state. Even for some of its followers, the art offered many insights in the long-term but poor knowledge for defining immediate solutions. Paul Bracken agrees that mystery and uncertainty surround the net assessment practice. Nevertheless, he states that “any problem involving competition merits taking a look at net assessment to see what insights it can bring.”³⁸

³⁷ Paul Bracken, “Net Assessment: A Practical Guide,” *Parameters: Journal of the U.S. Army War College* XXXVI, no. 1 (Spring 2006): 90.

³⁸ Bracken, “Net Assessment: A Practical Guide,” 90–91.

The kind of net assessment that is required by the senior decision makers is a *strategic net assessment*. This evaluation focuses on evaluating politico-military balances and threats and opportunities that may be of interest to decision makers. According to Cohen, strategic net assessment is defined as “the most highly aggregated form of the discipline and incorporates the many other kinds, which are of almost indefinite variety.”³⁹

Coincidentally, what Rosen called the national security *establishments* are the integral diagnoses of the capacities, both one’s own and those of the opponents, and the result of comparing them is the precise information required for the top decision makers. Bracken also states that “net assessment is not strategic planning, but net assessment does consider strategies,” and it “defines features of what any good strategy should have.”⁴⁰ The holistic perspective of net assessment allows for the composition of inclusive studies in which various visions of the subject of interest are concentrated. In these comprehensive studies, every factor, whether human, organizational, economic, or military, is integrated into systemic analyses in which the strategic results go beyond mere rivalry. Therefore, the perspectives and associated skills of net assessment include strategic interactions, longer time spans, getting things right with a little thought, the importance of socio-bureaucratic behavior, strategic asymmetries, and the multifaceted nature of strategy.⁴¹ These perspectives and skills, acting together, make net assessment a strategic study framework unlike any other analytical tool.

Thereby, in the *strategic interactions*, one of the functions of net assessment may be to predict the reactions of the opponent to the actions that one can take and thus be able to manipulate them at convenience. To carry out such activities, leaders must have a broad strategic landscape that reflects the reality of their own situation and that of the opponent. It is necessary to integrate all the state institutions in a joint effort to provide the required information to a single entity that analyzes and synthesizes the data to build

³⁹ Cohen, *Net Assessment: An American Approach*, 4.

⁴⁰ Bracken, “Net Assessment: A Practical Guide,” *Parameters: Journal of the U.S. Army War College* XXXVI, no. 1 (Spring 2006): 98.

⁴¹ *Ibid.*

such a panorama. This *strategic level* entity has the responsibility to corroborate, format, understand, and consider the information concerning all the protagonists that interact in the conflict in order to compare them and identify the *net* differences between them. Bracken compares net assessment accurately to a statement of the net profits of a business presented to the CEO by the executive staff.⁴²

By “*longer time spans*”, Bracken means that periods of attention to “national security problems are driven by one of the two time rhythms,” the current news cycle and the changes of political administration.⁴³ The first occurs instantaneously due to the reach of the media and the second depends on the presidential succession. The practice of net assessment studies both rhythms permanently, considering the immediate changes but also identifying the changes that are only perceptible at wide intervals of time. These changes influence perceptions of the power of the participants so that the perception-reality relationship allows leaders to alter the interaction and therefore the result of rivalries.

Another essential skill required in the practice of net assessment is to ask the right questions, namely “*getting things right with a little thought*”.⁴⁴ Thus, the net assessment seeks to identify the commonly overlooked real problems scrambled in the general pool of adversities such as national security, terrorism, or food crisis. So, to be able to undo a skein of tangled yarn, first one has to think a little, pay attention, and identify the strands and how they behave when manipulated one by one. Making a decision that immediately solves a problem may not prevent a long-term crisis, or worse, may cause one.

In taking into account the “*importance of socio-bureaucratic behavior*”, net assessment, unlike operations research and systems analysis, considers the effects of dynamic bureaucratic systems in the development of the strategies and behaviors of the actors.⁴⁵ The fact that technological evolution changes security and defense policies

⁴² Bracken, “Net Assessment: A Practical Guide,” *Parameters: Journal of the U.S. Army War College* XXXVI, no. 1 (Spring 2006): 93.

⁴³ Ibid., 94.

⁴⁴ Ibid., 93–94.

⁴⁵ Ibid., 94.

shows that military officers now share with civilians the results of organizational behavior changes. Including these shifts in a comparative diagnosis is a fundamental net assessment skill.

Finally, the identification and acceptance of “*strategic asymmetries*” provide an opponent the opportunity to know and use its strengths and weaknesses in front of others.⁴⁶ The ability of the net assessment to evaluate the asymmetries, even when they differ entirely from one’s own, allows visualizing the probabilities of competition with actors with completely different traits.

3. The Delicacy of Art—What Net Assessment Is Not

Not all comparative analysis to make decisions is net assessment. The difference between current comparative analysis and net assessment lies in the study of the interaction between the actors, whether in peacetime or war. Consequently, while a comparative statistical analysis only shows the arithmetic differences of resources available to two or more players, a net assessment interprets the effects produced by the interaction of these numerical values. In this sense, in order to infer the probable results, net assessment includes those factors that intervene in the employment, direction, service life, management, and capacity of those resources when they are used by the actors.

Since its origin, net assessment has been compared with other methods of analysis such as the military estimate of the situation, operations research, and systems analysis, but there are great differences between net assessment and these other analogical approaches. The Commander’s Estimate (or Estimate of the Situation) is a tool to “provide officers with a structured means of thinking through a tactical or an operational situation; as such it merely codifies common sense orderliness.”⁴⁷ In practice, flexibility in the elaboration and application of the estimate of the situation depends on the official who formulates it. It must be attached, however, to the five steps that compose it: 1. mission, 2. situation and course of action, 3. enemy courses of action, 4. comparison of

⁴⁶ Bracken, “Net Assessment: A Practical Guide,” 94.

⁴⁷ Cohen, *Net Assessment: An American Approach*, 7.

possible courses of action, and 5. decision.⁴⁸ In net assessment, most of the decision makers are civilians who cultivate and take advantage of net assessment's knowledge generation to conceive actions and visualize their effects during their development.⁴⁹ Thus, the main differences between these two tools can be seen in Table 1.

Table 1. Estimate of the Situation versus Net Assessment⁵⁰

	<i>Estimate of the Situation</i>	<i>Net Assessment</i>
1. Rigidity in format and structure	Tends to be formulaic to make sure that officers make decisions in an orderly fashion.	Must retain extreme flexibility in format. The structure of the analysis is given by the subjects that need to be studied. The rigidity and pre-established form may lead one to obviate or lose information and knowledge.
2. Temporality of actions taken	Focus on an immediate military effort, either a battle or a campaign.	Looks to a competition without knowing its beginning or end.
3. Temporality of the conditions to be studied for planning	Focus on short-term conditions to plan, no more than two years past or future from the date of study.	Focus on long-term settings, both backward and forward, to planning.

Net assessment is *not* Systems Analysis, either. Systems Analysis has its roots in the school of strategic analysis, having been influenced mainly by economics and operations research. Its primary mission is to mathematically model the military and economic structures that interest the decision makers to conduct efficient logistical and financial processes, maximizing the effectiveness of the forces and the proper use of the budget. Net assessment, on the other hand, is “oriented toward *diagnosis* of complex relationships to understand the nature of their actual and potential interactions over the long term.”⁵¹ The results of the comparative analysis can be expressed quantitatively or

⁴⁸ Ibid., 7.

⁴⁹ “[PDF]Net Assessment: The Concept, Its Development and Its Future,” 11, http://www.DOD.mil/pubs/foi/Reading_Room/Other/Litigation%20Release%20-%20Net%20Assessment%20concept%20development%20future%20%20199005.pdf.

⁵⁰ Adapted from Cohen, *Net Assessment*, 7–8.

⁵¹ “[PDF]Net Assessment: The Concept, Its Development and Its Future,” 5, http://www.DOD.mil/pubs/foi/Reading_Room/Other/Litigation%20Release%20-%20Net%20Assessment%20concept%20development%20future%20%20199005.pdf.

qualitatively as long as they show useful information. For a better understanding, the main differences between those methods of assessment are shown in Table 2.⁵²

Table 2. Systems Analysis versus Net Assessment⁵³

	<i>Systems Analysis</i>	<i>Net Assessment</i>
1. Methodology	Tends to focus on a single preferred approach to setting up a problem.	It is resolutely eclectic.
	Attempts to find the key method for understanding military balances.	Uses many methods, including systems analysis, war gaming, historical analogy making, and traditional forms of reasoning.
	It is primarily based on deduction. Try to reason in theory and then prove its result with reality.	It is more inductive, highly empirical and fact-oriented. Observes and studies reality to create knowledge of it later.
	It makes claims to scientific method and rigor. Its procedure seems to believe in Newtonian certainties.	Hopes to get a handle on pieces of large, infinitely complicated, and interconnected problems. The procedure is referenced as the mathematics of chaos.
2. Attitude to Numbers	It rests heavily on qualitative analyses of military balances. Analysts include intangible calculations, or key non-quantifiable issues, that most of the time are left unanalyzed, altering the final product.	Answers the first-order questions, even if the answers are indefinite or vague. No matter if the subject is a non-quantifiable.
3. Frame of Reference	It breaks down the topic to be analyzed in small areas to simplify and understand it.	It assumes that the study done on a subject is only part of a larger scenario. It is aware that in a study all the subjects and disciplines are interrelated.
4. Central Question	How much is enough? The formulation of the central question forces analysts to give an absolute and precise answer, with immediate results, and with multiple applications.	What is the nature of our current competition? Net assessors ask open-ended questions, so they do not feel compelled to respond with mathematical or methodological certainty.

⁵² Cohen, *Net Assessment*, 9–12.

⁵³ Adapted from Cohen, *Net Assessment*, 9–12.

III. HOW IS THE PROCESS DONE?

How can one discover what precisely a state is doing or why, since there is no living “state” but rather thousands of officials in scores of departments exercising governmental functions.

—Malcolm N. Shaw⁵⁴

A. A BROAD VIEW

Net assessment as a *practice* requires learning and repeating various methods and tools to be employed in analyses. These requirements must be of artistic as well as scientific origins and include cleverness and experience. Since there is no accepted definition of *net assessment*, it is difficult for the process to be taken seriously, much less applied. Organizations and institutions performing strategic activities that require analysis cannot readily adapt or replicate it because there is no model to follow. Instead, they prefer to apply analytical techniques that are already standardized even if they do not offer the same results. The intention of this section is to determine the course that the net assessment effort should adopt to serve the interests of a nation’s security or institutions with strategic impact, its use, and how it should adapt to the new conflicts and competing challenges.

One can state that despite the differences between net assessment, OR, and systems analysis, the elements of comprehensive and comparative analysis of those processes are employed by net assessment. Thus, this comparison does not seek to subordinate or diminish the importance of any study, but to confirm that its use is intended for different fields of analysis. At the same time, some of the methods to perform net assessment are scenarios, war games, trend analysis, and considered judgment.⁵⁵ These are not the only necessary means, however. The main characteristic of a method that supports analyses for net assessment should be the simplicity in its exercise and the robustness of knowledge in its result. In Bracken’s words, “the spirit is one of

⁵⁴ Malcolm N. Shaw, *International Law* (New York: Cambridge University Press, 2014), 52.

⁵⁵ Bracken, “Net Assessment: A Practical Guide,” 98.

using relatively simple models, numbers, and trends, and to think long and hard about what they mean.”⁵⁶

In this sense, the actual absence of such characteristics to generate national security strategy make this field fertile and enables it to break with the hierarchical organizational schemes both in the government and academic spheres. Strategic uncertainty shows that as there is less knowledge or experience about new phenomena, the understanding of new realities and the generation of knowledge from that understanding could even overcome differences in age groups, hierarchical ranks, or political preferences.

Andrew Marshall identified three key questions focused on *strategy* and the development of *strategic thinking*: How is the term defined for national security purposes? How does that kind of thinking develop in individuals? What is the educational background that facilitates the development of strategic thinking in the individual?⁵⁷ To answer those questions one has to take into account the conjunctural events that have transformed the analysis requirements and perceptions about national security, the environments in which the strategist interacts and performs, and the organizational relationships within working groups related to strategic planning.

B. GOING NARROWLY—STRATEGIC NET ASSESSMENT

In an evaluation of national security establishments, whether in peacetime or war, factors such as human and organizational behavior, history, culture, geography, politics, economics, intelligence, social psychology, anthropology, demography, and religion must be included to optimize the accuracy of results (Figure 5). It is clear that human intellect, perception, and interpretation play a primary role in analysis that not even the most advanced computer has yet been able to match.

⁵⁶ Bracken, “Net Assessment: A Practical Guide,” 100.

⁵⁷ Andrew W. Marshall, “Strategy as a Profession for Future Generations,” *On Not Confusing Ourselves: Essays on National Security Strategy in Honor of Albert and Roberta Wohlstetter*, 1991, 302, 303.

The ideal analyst who performs strategic net assessment must have proficient abilities and be a strategic thinker experienced in matters of intelligence. The most significant influence on a strategic analyst is the environment he has experienced, however. These may include serving in governmental or civilian offices during war where the uncertainty and the economic capacity allow continued conduction of strategic assessments. A nation must commit the resources to maintain an office that does not yield immediate results but cultivates a long-term planning capacity and political-military patience in pursuing useful findings.

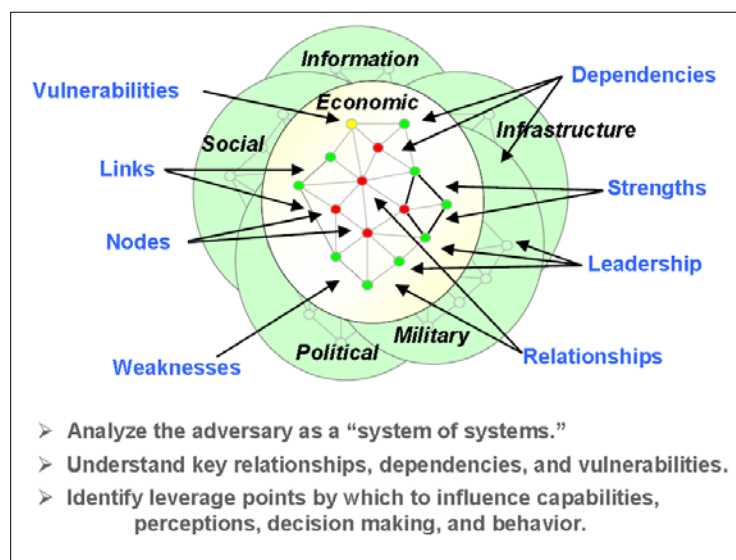


Figure 5. System-of-Systems Analysis⁵⁸

A significant concern for decision makers and strategists about the generation of knowledge and strategies for the application of actions in the medium and long term is the acceptance and understanding of mistakes. When generating a systemic analysis of the medium and long term that includes social phenomena, there will always be independent variables that alter the expected results. Thus, the ideal conditions for encouraging an individual to undertake strategic thinking are those in which there are no rigid hierarchies, there is freedom of thought and ideas, leaders inspire and promote the

⁵⁸ Source: Joint Warfighting Center United States Joint Forces Command, “The Joint Warfighting Center Joint Doctrine Series Pamphlet 4,” February 24, 2004, <http://handle.dtic.mil/100.2/ADA423983>.

generation of knowledge and influence positively, and mistakes are understood and accepted.

The term “strategy,” taken in consideration with the planning of the national security of a state, must have an openness to all fields of knowledge to foster the holistic understanding of a given situation or phenomenon. A person who can develop a capacity for strategic thinking or who considers himself a strategist, no matter what his academic background is, must be aware of his need to seek help since no one is knowledgeable about all the issues involved in security. This is how multidisciplinary participation may generate the required comprehensive analysis.

These considerations help to explain why a single definition cannot delimit net assessment. Only individuals with exceptional abilities will be able to understand and develop net assessment. When performing such an assessment, analysts can provide a dynamic overview to senior executives. The understanding of history may clarify current conditions and identify trends that will affect the future. With this information in hand, decision makers can plan strategically and determine the actions necessary to seize opportunities or avoid future risks.

C. GROUP AND WORK

Working with a complex, mostly abstract, approach to analysis that lacks standardized tools and methodology, net assessors have to seek support from all institutions that could provide useful information for the inquiry at hand. Sometimes, they must create new databases, and modify their strategic thinking and analytical techniques. They may standardize and extend historical archives in their temporal coverage and content, collect primary data sets and current intelligence, and establish methods of measuring factors such as the logistical weakness of a system or operational capacity.⁵⁹

An office of net assessment has to be the cluster where specific information is gathered and transformed into strategic proposals according to the needs and considerations of the high-level decision makers. At the same time, the analysts should

⁵⁹ Pickett, Roche, and Watts, “Net Assessment: A Historical Review,” 167–69.

consider the effects and consequences of each decision, and regard it as feedback considering the accuracy of the analysis and continually reintegrate the findings. Analysts must have access to the greatest amount of information related to the new topic of interest to facilitate understanding and educate subsequent generations of strategist. Then, those who require answers and guidance for decision making must guarantee free flow in the information's inlet and outlet channels.

The types of necessary net assessments will vary. Nowadays, simply studying military balances is insufficient; studies should also include economic, technological, social and cultural factors, among others. The objective continues to be the elaboration of a net global assessment, but the requirements are now increased. According to Cohen, who agrees to a significant extent with Rosen, five concepts govern comparisons and net assessments: a way of thinking about the balance, long-term trends, concepts of operation, asymmetries, and scenarios.⁶⁰

The inflexible components of net assessment are the subject, data, and trends (Figure 6). Because of net assessment's immutable eclectic nature, these components will be interdependent in their study but must be interpreted invariably from the opponent's point of view. For the development of evaluations, however, the discipline is not governed solely by data but rather seeks the explanation of the phenomena of study in different disciplines. These disciplines can be quantitative or qualitative and may nonetheless be useful even when they do not appear to be rationally compatible. Therefore, the same net assessment can include mathematical models and cultural or psychological profiles to explain the behavior of decision makers from multiple countries.

⁶⁰ Cohen, *Net Assessment: An American Approach*; Stephen Peter Rosen, "Net Assessment as an Analytical Concept," *On Not Confusing Ourselves: Essays on National Security Strategy in Honor of Albert & Roberta Wohlstetter*, 1991.

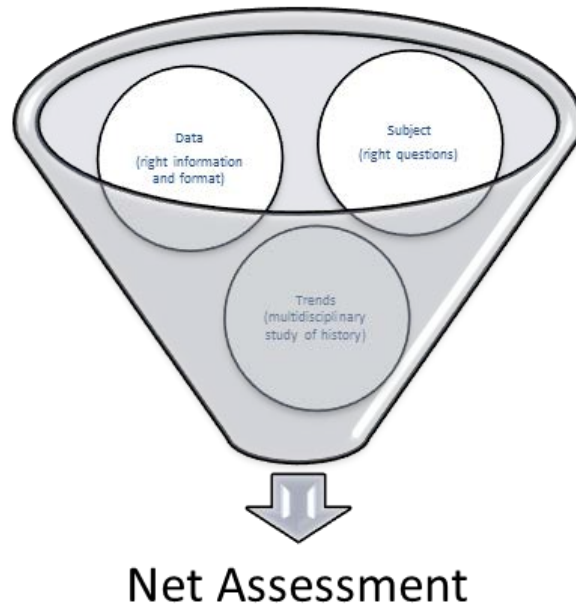


Figure 6. Key Elements of Net Assessment

1. Individuals and Net Assessors

Because of its detached nature, its multidisciplinary sources, and the extended temporality in which these studies are elaborated, it is hard to adopt an absolute definition of net assessment. It is hard, too, to develop a profile of the ideal analysts, but the necessary characteristics outside their academic experience are strategic thinking, an inquiring mind, and a willingness to find tools and methods useful to solve the problems.

Initially, the analysts' strategic thinking is concretized by having the capacity to relate and interconnect the systemic effects that have implications for the state. With access to information, to generate knowledge, analysts must not only depend on the state's customary human resources. They must also seek and summon those persons who have mastery of the issues involved, creating research groups with academic authorities who also serve as an example and inspiration for those who work as analysts or advisors.

For the development of strategic thinking, experience mixed with knowledge is necessary. Essential skills such as common sense and self-criticism, as well as the acceptance of mistakes, play a transcendental role, however. Other primary abilities are the curiosity and the intention to innovate, in order to propose new means of study and

points of view, taking into account common subjects like the culture and the behavior of the individuals in society and organizations.

According to Andrew Marshall, among the academic backgrounds facilitating the development of strategic thinking are economics and business.⁶¹ The educational fields that increase the capacity to think and understand strategically may include macroeconomics, fundamentals of commerce, business, mathematics, quantitative analysis, demography, politics, cultural anthropology, biology, ethology, psychology, history, and human and organizational behavior. Experiences in different academic fields, service in governmental institutions, and military knowledge and training are considered useful for a strategist. The skills that stand out in the leading strategists, however, are common sense and thinking outside the pre-established channels, questioning what happens in the environment.

Another characteristic that makes net assessment different is the inquiring mind or the application of intellect in assessing abstract factors. As Rosen states, the foundation of net assessment is in the intellectual approach that differs substantially from system analysis, game theory, and statistical analysis “because they were not amenable to quantitative measurement and modeling” intangible features.⁶² Net assessment can predict likely player behavior only if analysts have the intellectual ability to interpret the results of their interactions. The ability of the analyst to play the role of the opponent will give plausibility to the interpretation of the interaction between the players. In that position, the analyst will have to find a way to win. The accuracy of the outcome will depend on how astutely the player’s abilities were assumed and employed.

It is imperative to train net assessors as regional and state experts. The mastery of the analysts in specific areas of interest will allow them to benefit from accurate and standardized information for the elaboration of net assessments. The analyst’s understanding of the past and present dynamic state of the subject of study will give

⁶¹ Andrew W. Marshall, “Strategy as a Profession for Future Generations,” *On Not Confusing Ourselves: Essays on National Security Strategy in Honor of Albert and Roberta Wohlstetter*, 1991, 302–11.

⁶² Rosen, “Net Assessment as an Analytical Concept,” 290.

expertise regarding trends. As a result of that knowledge, the analyst will have gathered prospects of correctly extrapolating those tendencies to produce long-term forecasts as a non-discrete but continuous flow. Net assessment's skill in prediction lies in identifying, interpreting, and reproducing trends.

Success in developing the art of net assessment is due not only to the access to top-level intelligence information, but also to the intellectual capacity and personal aptitudes of the assessors. Their intellectual evolution must comprise interest in investigating the relevant phenomena from their origins in situ. This may involve face-to-face interviews with persons of interest to seek an understanding of the perceptions of various leaders and decision makers, including their interpretation of doctrine.

Finally, personal characteristics of net assessors ideally include strategic pragmatism, long-term futuristic vision, a capacity to observe problems with clarity, discretion, humility, and an avoidance of public limelight.

2. Information and Contractors

The lack of promptly available information is a major obstacle to the development of net assessments. The available data on the systems of interest are sometimes useless due to the multiplicity of information-producing organizations and the absence of collection and storage standards. The collection of information and the elaboration of useful databases for evaluations are an inevitable and urgent need. Therefore, the first priority for a net assessor is that the intelligence apparatus should be directed to obtain the necessary inputs to perform net assessments or to find other sources.

The current complexities of national security and international relations require the participation of multiple government agencies and private sector institutions in the development of net assessments. The unbiased, systemic, inclusive, and selective use of the net assessment should remain intact, however. Thus, much of the knowledge and expertise poured into evaluations will come from external sources. Various firms and researchers have to be hired to do the net assessments, including third parties and institutions such as think tanks, universities, contractors, and international consultancies, among others.

Net assessment, hence, is an art of analysis within an institution and among those who participate in its elaboration. The success of this discipline could be measured with its accuracy, its earned proximity to executive decision makers, and its durability within the changing bureaucratic apparatus.

D. WHAT IS NET ASSESSMENT USEFUL FOR?

In performing a net assessment, information is available to all actors, but its interpretation and final use depend on the assessors and the clarity with which they transmit it to the decision makers. The accurate interpretation of the assessors results in strategic knowledge that broadly addresses issues of concern with the long-term maintenance of national security and state permanence. Clarity in the presentation of the knowledge produced will allow senior decision makers to understand broadly the landscape they face and to carry out plans, strategies, and actions that favor the interests of the state. Net assessment is thus “a way of tackling problems from certain distinctive perspectives that involve skills that can be improved.”⁶³

Net assessment provides useful knowledge to decision makers to reduce their uncertainty. Its value is not in predicting events but in sharpening the judgment of highly ranked executives. Net assessment advisors do not make decisions or deliberately shape that process. As was stated by the Institute for Defense Analyses, “the nature of the discipline depends on both the performer of the assessments and the user of the results as well as on the issues dealt with, and will vary from time to time and from context to context.”⁶⁴

As a consequence of the net assessment group efforts and the direct interaction with the decision makers, the net assessment capacity can create tools and strategic studies. Those creations can be classified, accordingly to Pickett, Roche, and Watts, as military balances, weapon and force comparisons, lessons learned and historical evaluations, special assessment topics, analytic frameworks and tools, and private

⁶³ Bracken, “Net Assessment: A Practical Guide,” 91.

⁶⁴ Institute for Defense Analyses, “Net Assessment: The Concept, Its Development and Its Future,” (IDA, May 1990), 13, http://www.dod.mil/pubs/foi/Reading_Room/Other/Litigation%20Release%20-%20Net%20Assessment%20concept%20development%20future%20%20199005.pdf.

assessments.⁶⁵ All of them are characterized as broad and epistemologically multidisciplinary answers to correctly elaborated questions. The aim is to offer a realistic approach generated by the honest acceptance of the internal conditions and to replicate the result, adopting the position of the opponent.⁶⁶

The ultimate goal is the long-term strategic planning by decision makers to find balance between power and capacities that would allow the state to maintain its strengths in the face of present and future threats for as long as possible. Another goal is minimizing existing or potential weaknesses by allocating resources to more critical areas, considering that the decisions taken would have a long-term impact that could not be easily modified.

In this sense, the term “strategy” on national security issues is used to define the planning, coordination, and execution of activities and resource management. It is used by a state’s decision makers to promote the permanence of the state in the medium and long term. For military and national security issues, however, the term could be defined as “a prudent idea or set of ideas for employing the instruments of national power in a synchronized and integrated fashion to achieve theater, national, and/or multinational objectives.”⁶⁷ This definition has to be the one that most fits the critical and analytical purposes of net assessment. In this sense, the term “strategy” in the study and application of net assessment includes, with equal importance and interest, the political, social, economic, military, and cultural fields as well as all those factors and phenomena that influence the preservation of the state. Thus, except for military and budgetary concerns during times of war, any national security strategy must include all the fields of state power and be respected with equal importance for periods of peace in the medium and long term.

⁶⁵ George E. Pickett, James G. Roche, and Barry D. Watts, “Net Assessment: A Historical Review,” *On Not Confusing Ourselves: Essays on National Security Strategy*, 1991, 168–76.

⁶⁶ Ibid.

⁶⁷ “Strategy,” United States. Joint Chiefs of Staff. *Department of Defense Dictionary of Military and Associated Terms*, (Washington, DC: Joint Chiefs of Staff, 2010).

The application of net assessment goes from the tactical to the strategic level, where the complexity of the analysis is mainly due to the relevance of the situation, the consequence of the actions carried out, and the number of factors that intervene. Thus, at the tactical level, the estimate of the situation in a military campaign, or the selection of items for a store's inventory liquidation in the commercial field, are net assessments done by decision makers with local information while looking for immediate and low-risk outcomes. At the strategic level, the decision to start a war, or to sell part of a company's assets, entails deeper net assessments and more serious considerations about the effects that decisions may have.

It should be noted that the emergence of strategy, an important tool for national security planning, occurs when the uncertainty generated by new threats exceeds the analytical capabilities of the existing analysis systems and staffs. It also arises from an atmosphere and experiences that awaken the curiosity, perception and strategic sense of the analysts and their leaders. In other words, the revolution of strategic thinking is generated by the survival instinct, by the need to know the capabilities and intentions of the enemy while maximizing, at the same time, the security and war capacity for the longest possible time with available resources.

Therefore, it is clear that the process not only focuses on military capabilities but also on all the factors that have an impact on national security. It also maintains openness in designating national security establishments without typecasting them as mere statistics or only comparing face-to-face weapons capabilities. Thus, net assessment could be used to analyze any issue that arises in national security, both during peacetime and in war, by comparing integral diagnoses of one's own capabilities and options and those of the opponent.

E. WHO NEEDS NET ASSESSMENT?

Due to the multiple areas in which its results have effects as well as its strategic scope, the selection of net assessment practitioners has to become a study object in its own right. Thus, the reduced circle of high-level decision makers using the net assessments will also have to be selective.

While the types of net assessments published to date show similarities and overlap, they are not all the same. The overlap should be considered a strength of net assessment, despite the apparent duplication of information. It is enough to understand that armed forces are useful both in peacetime and war, so the assessments are relevant in understanding their actions over time.

The relevance, accuracy, and flexibility of net assessment could be adopted by institutions related to national security or global business decision making by adopting its principles in their groups of analysis and planning and even modifying their organizational structure, creating a new group to perform it. Armed forces, intelligence agencies, state secretaries, and global companies could align themselves with the methods of assessing their own and their competitors' operational and planning capabilities. They could adopt an approach that made evident the best ways to exploit a competitor's weaknesses while maximizing the efficiency of their use of resources and minimizing the own shortcomings.⁶⁸

Usually, senior officers who demand clear and useful information for making strategic decisions require net assessment. The accuracy of the information provided by the analyst's group depends on the questions asked by the senior officers and the information available to formulate an answer. Thus, the challenge of the senior officer must be to formulate an answerable question, ideally, one that covers the strategic aspects that may arise given the prevailing conditions. On the other hand, those who are responsible for the assessment have the challenge of finding, collecting, and formatting information to create and expand accessible and understandable databases to answer those questions.

⁶⁸ Pickett, Roche, and Watts, "Net Assessment: A Historical Review," 167.

IV. NET ASSESSMENT PROCESS PROPOSAL

To produce knowledge, you have to have the power to be there and to see in experts' ways things that the natives themselves cannot see.

—Edward Said⁶⁹

From the point of view of the author, the performance of net assessments within an organization entails two distinct processes. The first is the formation, structure, and inclusion of the net assessment group within the institution. The second is the process of elaborating and updating the net assessment.

A. BUILDING THE CAPACITY—THE SOFT HARDWARE

The process to establish and institutionalize the net assessment capacity into organizations that do not practice it includes the following steps:

1. Finding the Leader

The leader of the net assessment group must be a person with:

- broad and long-term vision
- strategic thinking
- interests in performing net assessments
- influence to interact with the high executive level
- human qualities that allow the understanding of each decision's implications that is taken from the point of view of the opponent
- not necessarily outstanding high academic titles but with the availability and capacity to deepen in different areas of knowledge by pursuing common sense and accepting differing points of view
- no intention to excel in an administrative, political, or military ladder, but has as the only priority the survival and benefit of the state or institution to which he or she belongs

⁶⁹ Palestine Diary, *Edward Said on Orientalism*. YouTube, 2012, https://www.youtube.com/watch?v=fVC8EYd_Z_g.

- a pragmatic sense in developing studies and presenting final products without bias or fear of reaction even if that results in the alteration of his or her own position
- an academic background in hard and social sciences, also with experience in areas of strategic planning like general staffs or security and planning councils.

Executives should seek a person, civilian or retired military, with the aforementioned capacities from within the organization. They must consider the experience and career of the individual for designation, taking into account the needs, risks, current and future situation of the institution and the urgency to take strategic actions. Finally, the decision maker will appoint the lead analyst based on personal trust and willingness to accept criticism and opinions from that person about the decisions he has made so far.

The leader of the group of net assessment should serve for 10 to 15 years. The objectives are continuity and timely follow-up to the effects, trends, and long-term forecasts, without being altered by changes of administration. The leader of the net assessment group should advise senior executives and incoming decision makers on the strategies and actions that are taking place and guide them in future modifications.

2. Recruiting a Multidisciplinary Group of Leading Analysts

The recruitment of analysts for the main analytical group is primarily the responsibility of the group leader. Once given the instruction to integrate a net assessment group, the leader will identify the people related to the necessary characteristics that he knows perfectly. New assessors would be sought from both inside and outside institutions such as universities, armed forces, government, and private institutions, and also thinkers and opinion leaders, among others, working alone. When prospects have been identified, the leader should interview and evaluate them to assess their ability to carry out net assessments. The profile of the evaluators should basically be the same as the lead analyst with the difference that the leader owes his or her trust directly to the top executives and decision makers, while the analysts of the group owe it to the leader.

Assessors must be both intellectually capable and trustworthy with sensitive information. All prospects must qualify for top secret information access. With this, it will be possible to elaborate a general profile of the prospects and thus to define if their personal, familiar, and social conditions will allow them to carry out the analysis tasks. Those prospects who are not able to access classified information can be employed as external consultants if their abilities are unique. In the same way, compartmentalized work will be done with all the contractors required for the development of studies.

Only after the interviews and evaluations that the leader considers necessary will the candidate be nominated to join the net assessment group. No other office or authority, without exception, may nominate and appoint a person to join the net assessment group. The main group may not have more than 10 analysts, including civilian and military personnel.

The duration of the analysts in the net assessment group will be conditional on their performance and results. If the analyst complies with the standards for which the group was created, he eventually can be transferred to other institutions that collaborate with the net assessment group while another analyst covers his place. The movement will aim to expand net assessment capabilities to other institutions and standardize and facilitate the exchange of information. If analysts do not meet expectations during the first two years, they should be removed.

3. Integrating and Shielding the Unit into the Structure of the Organization

The highest authority of the institution should directly order the integration of the group into the structure of the organization. Its position, due to the importance of its mission, should be directly under the senior executive in charge of the planning and execution of strategic actions with long-term effects. That high executive, in turn, must be under direct orders of the decision maker of the institution, such as the President, CEO, or Secretary of State, depending on the level of the institution in which it is included, in order to reduce the access and circulation of the products of the group to a

select group of people with the capacity to make strategic decisions without delay or bureaucratic hindrance.

As the top leader is the one who orders the integration of the net assessment group to the organizational structure of the institution, senior executives in charge of the internal administration should adjust the internal bureaucratic apparatus as required. Because the group is small, 10 to 12 members as maximum, the management and administration of human resources is not so complex. The infrastructure needs should be equated with those of the facilities where information and projects with a high level of secrecy are handled, however.

If there is no secure infrastructure, then it will have to be created. And if it exists then it will have to be conditioned according to the needs of processing, storage, presentation, and communication of the information of the group. Physically, the room of the net assessment group should be placed next to the office of the senior executive on whom it depends. This is in order to avoid delay in the communications and guarantee the security of the information, avoiding the use of intermediaries whether electronic, mechanical, human, or others.

In budgetary matters, the group's creative and investigative capacity must be guaranteed through the allocation of monetary resources. This means that the contracting of third parties for the elaboration of special studies and the payment for access to information and academic resources, among others, are necessary for the creation of knowledge that leads to achievement of the goals of the institution. Resources are also used to move the members of the main group when their presence is necessary in other places for the purpose of carrying out specific studies for an indefinite period.

Another important aspect of the budget is the salaries of the members of the net assessment group. Initially, the salaries must be assimilated with those of officials with parallel hierarchies. This is with the sole objective of guaranteeing the total commitment of the analysts in their tasks, preventing them from worrying about extra income or temptations of external offers. It must be considered that the members of the group are

selected, intelligent, with integrity and commitment, so their salaries must correspond to the impact of their work on the future of the institution.

One example is the budget for the Office of Net Assessment of the United States Department of Defense (Table 3). The U.S. government has spent an average of \$15 million annually in the last six years on the Office of Net Assessment, which is equivalent to 0.0026% of the state's total defense budget and 0.77% of the Office of the Secretary of Defense's budget. Considering an interpolation of values related to the dimensions of the states and institutions, the proposed budget for the creation and maintenance of the net assessment capacity should be $\pm 0.0025\%$ of the state security and defense budget, or $\pm 0.75\%$ of the secretaries' offices' budget. In fact, compared to the magnitude of the effects and achievements that can be achieved with net assessment products, budget investment is low.

Table 3. U.S. Budget Comparison DOD-OSD-ONA⁷⁰

US Budget Comparison Between Department of Defense, Office of the Secretary of Defense, and Office of Net Assessment ⁷⁰							
	2010	2011	2012	2013	2014	2015	2016
Department of Defense	\$691,200,000,000.00	\$768,000,000,000.00	\$645,700,000,000.00	\$614,800,000,000.00	\$581,400,000,000.00	\$560,500,000,000.00	\$585,300,000,000.00
Office of the Secretary of Defense	\$2,155,878,000.00	\$2,247,728,000.00	\$2,349,988,000.00	\$2,006,840,000.00	\$1,948,474,000.00	\$1,928,999,000.00	\$1,923,080,000.00
Office of Net Assessment	\$19,589,000.00	\$13,390,000.00	\$12,235,000.00	\$18,304,000.00	\$10,253,000.00	\$28,663,000.00	\$9,092,000.00
Percentage allocated DoD/NA	0.0028	0.0017	0.0019	0.0030	0.0018	0.0051	0.0016
Percentage allocated OSD/NA	0.91	0.60	0.52	0.91	0.53	1.49	0.47
Average budget for NA(% from DoD)	0.0026						
Average budget for NA(% from OSD)	0.77						

4. Creating an Optimal Environment for Study, the Emergence of Ideas, and the Generation of Knowledge

Heads of state or institutions and high executives should seek to shield the group from any external influences that alter its performance. This situation is achieved, in part, through the process of selection of personnel; creation and integration of the net assessment group into the institution; workplace conditioning; budget allocation; and

⁷⁰ Adapted from: Office of The Secretary of Defense, "Fiscal Year 2016 President's Budget," Secretary of Defense, February 2015; Office of The Secretary of Defense, "Fiscal Year 2015 President's Budget," Secretary of Defense, February 2014; "Under Secretary of Defense (Comptroller) > Financial Management > Reports > Citizensreport," accessed May 5, 2017, <http://comptroller.defense.gov/Financial-Management/Reports/citizensreport/>.

personal, administrative, political, and economic security of analysts. Analysts, however, must develop in an environment free of pressures of thought and ideas, where the creative capacity is encouraged and there are no fears for telling truths.

Several factors are involved in creating an environment suitable for the generation of knowledge, but the most important is to guarantee freedom of intellectual expression. Initially, senior executives and decision makers should receive the results of the evaluations made by analysts with maturity and humility. They must take into account that the results, whether critical or constructive, only fulfill the purpose of expressing the real situation of the systems of interest and the effects that the decisions taken in the past have had on them. Therefore, if an assessment is critical or flattering, users should not react against the net assessment group or ignore their products by believing they make good decisions without them. Any of these reactions will have adverse effects on the thinking and effectiveness of group analysis and therefore on future products.

Another factor that gives reassurance and freedom to advisors is the classified preservation of the products and their controlled distribution only to reliable senior executives. Because the net assessment products are varied and demonstrate the reality of the object of study, when they are made to evaluate the internal condition of the institution they are likely to affect nearby parties. When evaluating an opponent, also, the results of the assessment will become affectations or alterations of its current condition at the convenience of our institution. If, in any of these cases, the origin of the information that provokes such actions is disclosed, or personnel outside the trustable circle have access to it, the integrity of the assessors and the group is violated and therefore their security and freedom.

5. Defining the Fields of Knowledge to Be Explored and the Links with Internal and External Sources of Information

The areas of knowledge that must be studied by the net assessment group are completely dependent on the interests of the head of state or CEO of the institution. Everything that involves the permanence of the institution and affects its interests must be the object of forced study, however. In the case of the states and governmental

institutions, everything that modifies their systemic environment will be the object of study. Some examples of modifiers are opponent states, antagonistic groups, financial crises, natural disasters, arms races, food crises, migration, armed conflict, terrorism, organized crime, ideological-social phenomena, and political and diplomatic mismatches. For private companies, the definition of areas of knowledge differs from state definitions only in the search for profits and long-term market control. Thus, any field of knowledge that manages to explain the modifiers of the system will have to be included in the group, if not added directly to at least look for third parties that provide the knowledge.

Secure links must be established with other institutions taking into account the need for information and third party expertise in different disciplines. These connections may be through inter-institutional political and administrative coordination, or through contracts where the preparation of studies or databases is paid. Inwardly, the net assessment group's mandatory relationships should include direct dealings with the decision maker and senior executives and coordination and exchange of information with heads of other offices at the same level. To the exterior, the top executive must guarantee the communication of the leader of the group with those equivalent leaders and heads of offices for the development of the products. Both internal and external relationships should include the use and management of the cooperating agencies' capabilities, their systems, data banks, and services.

In contracting third parties to develop studies, the group will be limited to periodically make the necessary requirements and to verify the elaboration of the products. The contracts must include privacy clauses with legal bases that take care of the intellectual authorship and reservation of information. It should be noted that the studies carried out by contractors will be only part of a larger product of which only the net assessment group has the complete panorama and access.

6. Establishing and Maintaining Permanent Communication Channels with the High-Level Decision Makers

Even though the location and the members of the net assessment group are known, keeping the products reserved guarantees their safety and therefore their freedom

of creativity and thought. The interaction of the top executives with the group to feed back and clarify aspects of the analyses gives analysts confidence and guidance. Personal discretion of executives and net assessors will be the key to being able to work in freedom and full confidence. These relationships and behaviors can only be achieved by maintaining the channels of communication on a personal, physical, and direct level. The reduced number of members of the net assessment group, the political and intellectual capacity of the group leader, and the location of the room allows for the intercommunication with the top executives in an immediate and direct manner. That way, the user's needs are known directly, without intermediaries, and without delay when required.

The strategic influence of net assessment and the political-bureaucratic environment in which it operates make its employment ideal only at the highest levels of decision making in organizations or institutions. Thus, information has to be concentrated in a small circle of decision makers with the ability to pragmatically handle the various components of the system. A net assessment can affect multiple branches of government, including those responsible for armed forces, economy, public health, and national security, so it has to be closely held. Similarly, it could create conflicts of interest between organizations that are affected in ways such as budget or staff cuts. This analysis is intelligent, thorough, and unbiased, so the leaders can be confident that their decisions will be well-founded and always to the institution's benefit.

B. CREATING THE KNOWLEDGE—THE HARD SOFTWARE

The second process concerns the intellectual activities required for the generation of knowledge that will be used by top leaders. Although one of the fundamental principles of net assessment is freedom in the creation of knowledge, the factors proposed are intended to be only a general guide. Thus, the factors that must be considered in the net assessment performance are:

- *Identifying the topics to be studied.* As it is established in this chapter, the subjects of interest to be studied are all those, own and of the opponents, related to the modification, affection, or evolution of the system of systems in which the own organism exists or has interests. Some cases that a state could decide to study are: water problems in an opponent state,

regional perspectives from the opponent's point of view, alternative demographic futures for a nation, innovation for national growth, behavior of opponent nations' leaders, minimum deterrence against nuclear danger, and mobilization for a protracted conventional war.

- *Performing an integral review of the current state of the bodies of knowledge to be considered.* When conducting a comprehensive diagnostic examination of all departments that process and provide information to senior executives and leaders, the real needs for institutional restructuring and data generation will be known.
- *Compiling historical information related to the subject from different disciplinary perspectives.* The collection of multidisciplinary historical facts should encompass the necessary time to understand the current trends. Without being able to establish a specific period, studies for long-term strategic planning should aim for a minimum span of 20 years. All the information must be stored, creating useful banks of data for consulting or performing future studies.
- *Creating functional, compatible, and extensible databases.* The information collected by the group, as well as that provided by other parties, must be standardized in both content and form. The net assessment group has the task of instructing the participating bodies in the processing of information to produce understandable and extensible data. Eventually, the group will create accessible and malleable databases that will continue to expand without altering or losing content.
- *Conducting historical analysis of the subject from different disciplinary perspectives.* The need to have experts “from and in” multiple disciplines will allow the historical evaluation of the phenomenon of interest from different perspectives. As human evolution is approached by different sciences for their better understanding, historical studies useful for net assessment should be conducted in the same way.
- *Gathering previous studies to be analyzed and compared to the leading group of analysts.* Starting from scratch is not an option in the generation of knowledge, much less when it comes to topics that have previously been studied. Any study made before the net assessment group's inquiry should be considered and studied to take advantage of its qualities. Moreover, by saying “any” means that no matter its provenance, date, or author; even a broken clock is right twice a day.
- *Specifying the structural components and central issues in the subjects studied.* Time, breadth, and diversity of information used for assessments may eventually divert the main objective of the analysts. As the topic is identified, top executives state their main objectives, which are translated into the central axes of the assessment by the lead analyst. In knowing the

main issues, the group must identify the systemic components that do not undergo major changes over time and use them as structural references for the evaluation. Some examples of structural systemic factors are ethnicity, genetics, religion, and geography, among others.

- *Noting conjunctural factors and atypical phenomena, and investigating their cause-effect relationships and structural aspects.* Except for some natural phenomena, almost all conjunctural events that affect a system have antecedents that, despite having been identified, were not considered in time as risks or threats to the system. In the development of a net assessment, every detail matters, and if there is an atypical factor or behavior in the flow of systemic activities, then its study and trends must be considered. Some of the events that have changed important systems were announced in advance but were not given sufficient importance to study and remedy them.
- *Generating the forecasts of trends and alterations of structural factors and the emergence of conjunctural events.* Many people see the primary goal of net assessment as predicting the future, but that is impossible. What is possible is to study the systemic reality of two or more actors, the historical trends that led them there, and then build various scenarios according to their probable future tendencies. When comparing the actors under these layers of knowledge, we know the capabilities and advantages that can be used to increase the probability of influencing those systemic tendencies at will. Thus, when pulling the appropriate fine strings, it seems that the future was known from the beginning; what really happens, however, is that the future is forged at will.
- *Presenting the results obtained to the decision-makers in a clear and understandable way.* A common factor of all net assessment products is the executive summary. In comparison with the final product that can consist of 40 to 600 pages, the document shown to senior executives and decision makers should be clear, direct, punctilious, but especially short. It is not that the work does not deserve to be read, but rather that aspects of the agenda and responsibilities limit the attention and time that they can give to the net assessment. The leader of the net assessment group should also be able to communicate and explain the main points of the studies in short but substantial interviews.
- *Receiving feedback and updating studies as long as necessary.* The recommendations, criticisms, and needs on the net assessments should be received by the assessors directly from the users. Since both groups are small and close physically and bureaucratically, the communication of recommendations will be reliable and, by its immediacy, will allow the net assessment group to update the products according to the needs of the

users. Since the phenomena that are studied in their majority are dynamic, the update of the products must be continuous.

- *Formulating advice as to policy options and their possible costs and consequences in the concept of an ongoing competition.* In the elaboration of scenarios, it is imperative to evaluate the competitive realities in which we are currently involved. Even when planning to create strategies and make long-term decisions with knowledge of net assessments, risk scenarios should be developed taking into account the short- and medium-term effects of these decisions. Therefore, the basis for the generation of different policies must also be created, advising the decision makers about its impact and effect on the continuous reality.

Initially, the mission of the net assessment group seems difficult, but it is not impossible. If senior executives recognize the need for strategic thinking and planning, then they will provide all the necessary resources. The decision makers will fully rely on the actions and decisions taken by the leader of the group he or she designates. Also, they will give access to all the sources and resources that are necessary to fulfill the tasks because, with the products of the group, they will be able to guarantee the security and permanence of the institution for the long term. Although at first the creation of NA capacity is an endless and demanding work, which can last at least two to five years, provoking internal anger, rivalries, and resentments, and seeming to give much information and power to the group, the knowledge it will produce will be worth it. Moreover, although the advisors have privileged knowledge and intelligence, due to their personal and organizational characteristics, they will only advise top executives and decision makers but never argue for specific choices or make decisions themselves.

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V. PROPOSALS AND CONCLUSIONS

To date, there is only one country that officially has in its defense organization the institutionalized capacity of net assessment: The United States. As mentioned in the introduction, the study of the Office of Net Assessment as the only case allows us to identify unique features of the conditions that gave rise to it. The singularity of its creation allows transposing its current characteristics and capacities in different systems that could benefit from it. By reverse engineering, the author has identified the basic steps to create and institutionalize a net assessment capacity. The factors that should be considered in performing the assessments were also recognized and exposed after studying different NA products. Thus, having proposed a method for performing net assessment, its application in other countries' defense, and in public and private institutions, can be offered.

A. NET ASSESSMENT FOR NATIONAL SECURITY AND DEFENSE

This thesis proposes the inclusion of net assessment capacity, for security and defense, in two types of government. The first has security and defense systems unified under a single command, and the second has a security and defense council composed of different independent government institutions.

For the first case, states with a unified security and defense command should include net assessment capability within the structure of the office of the person leading that institution, as shown in Figure 7. The reason for the position includes several factors: the need of the minister or secretary for unified, clarified, and concise strategic knowledge; the proximity, relevancy, and permeability of the coordination between the secretary and the head of state; the decision-making capacity of the secretary over the bureaucratic national security and defense apparatus; and the advantage of the president or secretary to have a permanent staff of impartial advisors with no other interest than to inform them timely and truthfully for the benefit of the state.

The capacity building proposal can be presented to the head of state by the secretary of defense or any member of the high-level advisory staff. Any person proposed

to lead the project must have the characteristics mentioned in the Chapter IV and also must undergo the evaluations that are considered necessary to enter the closed circle of confidence of the president and ministry. Only the president, with the approval of the secretary of defense, can ratify the designation of the leader of the group due to the attributions granted to him and the impact that the products will have.

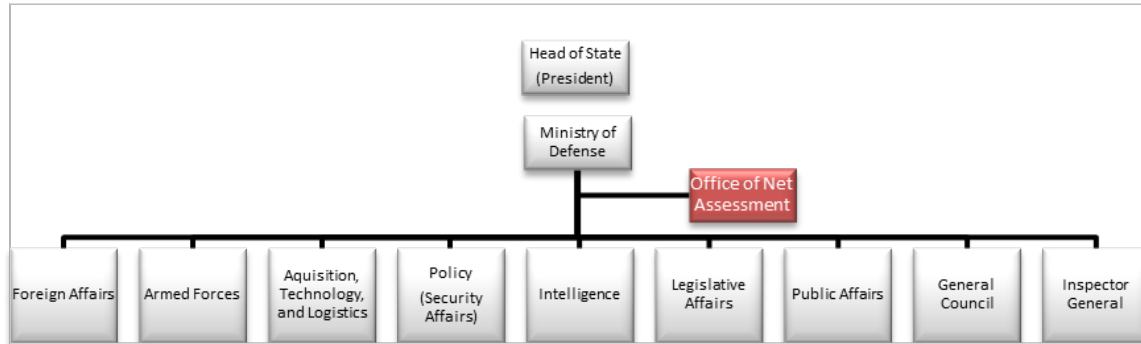


Figure 7. Proposal to Include an ONA in States with a Department or Ministry of Defense

The proposal for the second case, creating a net assessment capacity in a government structure with a national security council, differs from the former basically in two aspects. First, it does not have a single, or dominant, body that controls and dictates policies and actions for national security and defense. Instead, there are more than three leaders who work independently, making it difficult to choose the position in which the net assessment capability can meet its objective.

Governments without a unified defense command integrate all the security and defense-related institutions into a coordination group commonly called the National Security Council and led by the head of state. Each of the member institutions is an independent body of government with its own management, budget, and goals. As part of the council, they have common tasks like analyzing, designing and evaluating strategies to prevent, combat, or avoid threats and risks against state security, stability, and permanence. The national security tasks of the cabinet include, among others: guarantee the interior, exterior, public, and legal security; apply the rule of law; address and remedy short-term phenomena when they threaten the stability of the state; and create and

propose long-term national security policies, studies, strategies and actions. In the absence of a body that concentrates the direction and decision making of the security institutions, each will interpret and comply with the directives of the president to his own understanding. Finally, if the head of state obtains multiple, unconnected, incomplete, conflicting, and unintelligible products, he or she will not apply any, since they do not offer an integral solution to the problems.

Therefore, the first proposal of inclusion is to place the group of net assessment in the head of state's office, as a permanent body of the national security council, and designating it as the main advisory staff in matters of security and defense. Its immediate superior must be the head of the office of the president or, if applicable, the one presiding over the national security council in the absence of the head of state. Through them, the president will make the pertinent designations and communicate to the members of the council the actions and modifications for the creation and operation of the net assessment capacity (Figure 8).

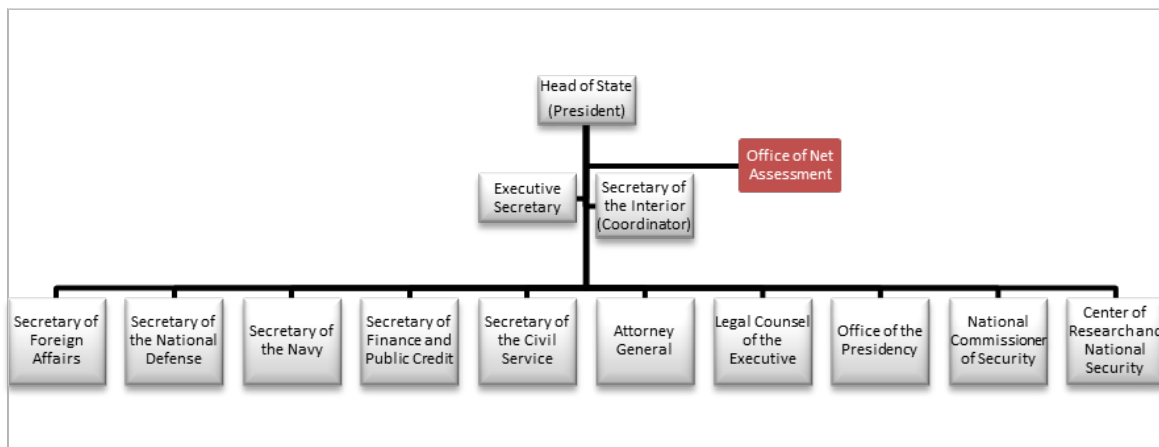


Figure 8. Proposal to Include an ONA in States with National Security Councils

The other basic difference in governments with councils is that there is no central and permanent body for studying and monitoring factors affecting national security. Nor is there a single, strategic, and inclusive governing body of plans and strategies for state security and permanence. Monitoring and follow-up of the effects and results of medium- and long-term decisions is difficult due to the difficulty of communication between the

secretariats themselves. It is also counterproductive to have independent institutions because, in a strategic plan, if any of them feel affected by complying with the guidelines, then they will poorly fulfill or evade what is not convenient.

The second proposal for this governmental organization is to create a unified command of defense including a net assessment office in the structure from the beginning.

B. NET ASSESSMENT FOR GOVERNMENT INSTITUTIONS

An option for the inclusion in public institutions is represented in Figure 9. In these cases, the same model of the ministries and departments of defense is taken. The net assessment group is under the institution's head, who in turn gives the necessary powers to the leader of the group to perform her or his tasks.

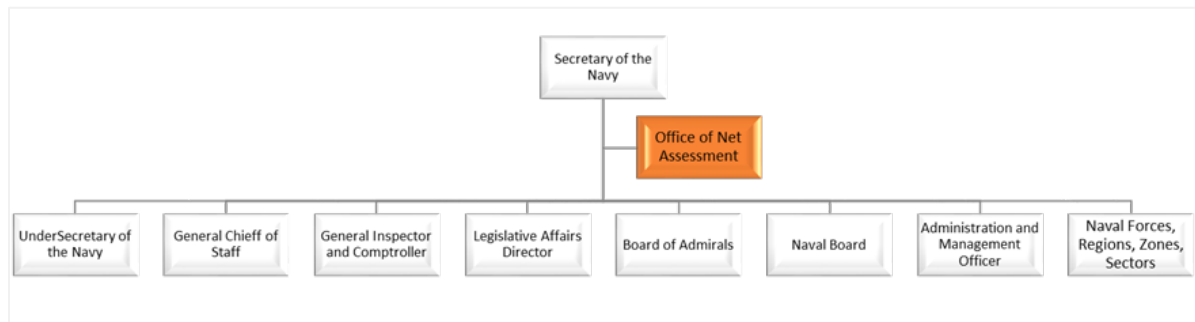


Figure 9. Proposal to Include an ONA in Government Institutions

C. NET ASSESSMENT IN BUSINESS STRUCTURES

The proposed inclusion of the Office of Net Assessment in the structure of commercial companies can be exemplified by the organizational structure of Apple in 2011. In this case, Figure 10 shows that centralizing command and control of the company allowed the CEO to directly transmit his decisions and ideas without any alteration to nine senior executives and six directors. This organizational arrangement allows the decision maker and the executives to maintain an information exchange in a direct and unaltered way, being able to clarify or to feed back the effects of each action carried out.

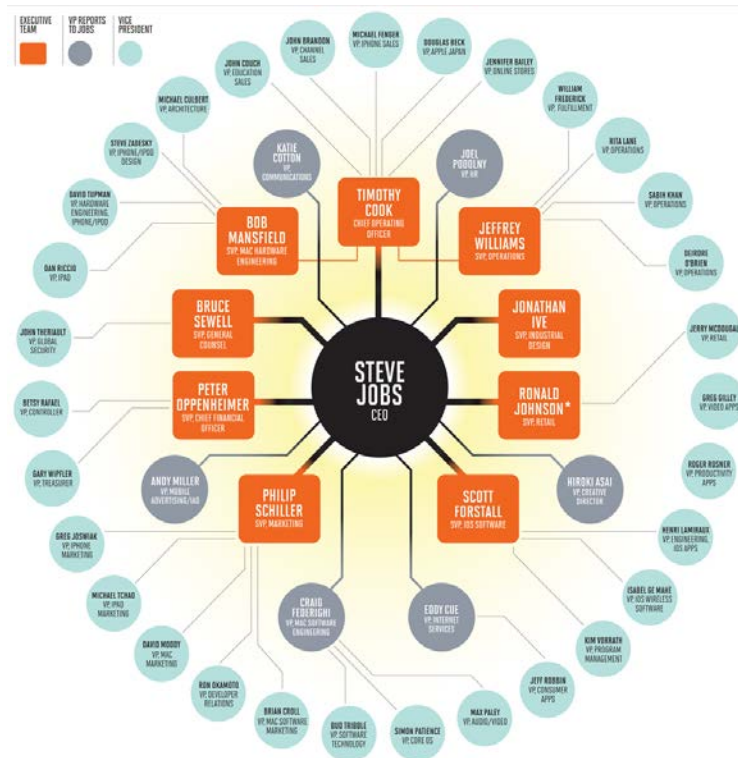


Figure 10. Apple's 2011 Organizational Chart⁷¹

Based on the structure shown, however, there is no office that is responsible for developing internal and external diagnostics of the company and its interaction with the global environment. Nor is there any office that studies the impact of the products on the market in the medium and long term, or the ability of the companies competent to match or exceed Apple's capabilities in that time frame. It also highlights the absence of a body of study that can support the continuity of projects and innovations of the CEO even if the leader changes, so the company can follow the strategic plans without drastically affecting the decisions and designs of the previous head.

The proposal for inclusion of the net assessment capacity places the group directly under the orders of the CEO with attributions of access to all the other vice presidencies and with total restriction of information except towards its superior (Figure 11). In this position, the CEO has the backing of a team that can advise and give continuity to the

⁷¹ Adam Lashinsky, "How Apple Works: Inside the World's Biggest Startup," *Fortune*, May 9, 2011, <http://fortune.com/2011/05/09/inside-apple/>.

company's long-term plans while being impartial and not interfering with the designs or goals.

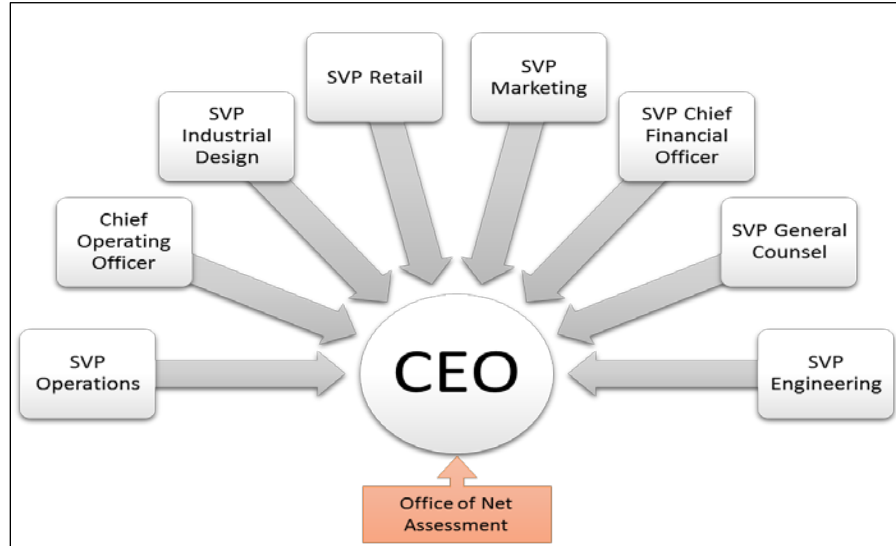


Figure 11. Proposal to Include an ONA in Business Structures

D. CONCLUSIONS

The complexity of the phenomena that undermine the permanence of institutions has evolved along with humanity. Throughout history, threats have gone from being sticks and spears against the family to weapons of mass destruction against a nation. Moreover, since the human race continuously develops, we are not even close to knowing what the future holds for us.

Humans permanently seek for safety and security, which they achieve through innovating protection methods and strategies. People want primarily to secure their personal integrity and space to defend against risks and threats. Living in society, the human being transfers that need for safety to the defense of the territorial space where society, government, and institutions coexist.

The use of intellectual capacity in conjunction with decision making drives the achievement of desired long-term states. All evolutionary development comes from the creational capacity of particular individuals and the application of these creations by

leaders and decision makers. These desired states range, among others, from the eradication of epidemic diseases, through technological inventions to make everyday life easier, to the democratic system.

Having the ability to openly study our environment to understand the phenomena that surround us gives us the capacity to prevent, control, or lessen their effects. Whether individually or in groups, the observation and understanding of the systems in which human beings interact allow us to formulate knowledge that can be transmitted. When that capability is addressed with a specific goal, the knowledge acquired can be used to develop plans and strategies to reach a desired future state.

Decision makers and senior executives must be aware of the complexity of the environment in which their institutions operate, the permanent risks and opportunities that exist, the value of information and knowledge, and the advantages of intelligent counseling in decision making. When a situational phenomenon threatens an institution and there are no effective tools to deal with it, it must be accepted that institutional research and planning has failed. The United States Department of Defense recognized, in 1970, the lack of a body of strategic research and analysis and consequently created the Office of Net Assessment because of the threat posed by the USSR. Unfortunately, only the state's survival instinct made them react.

To do net assessment is to observe the environment and try to understand the origin of the situations that are happening, not under a single approach but with an integral vision. Understanding that social, natural, economic, and political phenomena such as migration, water shortages, inflation, or state instability can have a common origin and be chain effects is only achieved through strategic thinking and the holistic study of reality. When an institution can create a group of advisors with these faculties, it is advisable, if not imperative, to do so.

The proposed methodology for the creation of a net assessment capacity, and the performance of the analyses, aims to establish a general but not rigid framework. Freedom of thought and procedures is the fundamental basis for the creation of knowledge. Any institution that intends to create a net assessment advisory body for

strategic study and research can find in this thesis the basis for doing so. The adaptation of the project to the particularities of the institution must be explored and done meticulously, however, so as not to alter the essence of the net assessment and, therefore, its effectiveness.

The institutional inclusion proposals of a net assessment office are based on the generalized structure of different types of government and organization. Under the principle of security and information flow that governs the relationship between senior executives and the net assessment group, the particular characteristics of the institution should be considered to accommodate the group in a position that guarantees its freedom of expression and physical and intellectual security. The leader of the institution should also be careful in appointing those senior executives who will have access to and communication with the group and net assessment products.

The intention of this thesis is to demystify the beliefs that exist about net assessment and to propose a particular procedure for its performance. From there, future studies can be developed to define the particularities of the topics, methodologies, procedures, and sources of information that are considered in specific products of the Net Assessment Office. The different research and advisory structures of government and private institutions can also be studied under the proposed net assessment methodological approach to find certain similarities and differences and adapt or update them to make them more efficient.

Finally, I consider that the human capacity to understand the phenomena that surround us is limited only by the feelings of tranquility, indifference, and unconcern caused by current technological advances and social comforts. When any phenomenon threatens the tranquility and integrity of human beings, however, that capacity for understanding and planning comes to life and keeps us alive. Just as not all humans survive the evolution, not everyone has the gift of being able to understand the environment in the same way. There are individuals with this gift around us; we just have to find them and give them the reliability and credibility to advise and cooperate in the permanence and continuity of the institution, the state, and humanity. Let us get them.

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